Outdoor Heat Exposure
Concise Explanatory Statement

As required by RCW 34.050.325(6)(a)

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I. Purpose of Rulemaking

The sections below describe the information utilized by the Department of Labor and Industries (L&I) to determine the necessity for a rule.

A. Legal Requirements

The Washington State Constitution mandates that "[t]he legislature shall pass laws for the protection of persons working in mines, factories, and other employments dangerous to life or deleterious to health."[1] In enacting ch. 49.17 RCW, Washington Industrial Safety and Health Act (WISHA), the Washington Legislature found "that personal injuries and illnesses arising out of conditions of employment impose a substantial burden upon employers and employees in terms of lost production, wage loss, medical expenses, and payment of benefits under the industrial insurance act. Therefore, in the public interest for welfare of the people of the state of Washington and in order to assure, insofar as may be reasonably possible, safe and healthful working conditions for every man and woman working in the state of Washington, the legislature…in keeping with the mandates of Article II, section 35 of the state Constitution, declares its purpose by the provisions of this chapter to create, maintain, continue, and enhance the industrial safety and health program of the state…"[2]

WISHA mandates that the Director of L&I shall "[p]rovide for the promulgation of health and safety standards and the control of conditions in all work places concerning…harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity."[3]

In *Rios v. Dept. of L&I*, the Washington Supreme Court concluded that L&I must consider rulemaking for recognized work place hazards.[4]

B. Evaluation of Current Rules

On July 18, 2005, a farm worker collapsed while cutting weeds with a machete in hop fields near Yakima. He died, and the coroner ruled that the cause of death was heat stroke. L&I investigated the death and later cited and fined the company for an inadequate safety program, not providing drinking water, and lack of training for workers. The safety program should have included a plan to prevent heat stress by providing rest breaks, shade, worker hydration and administrative controls such as a work-rest regimen.

The citation was issued December 23, 2005, and the subsequent appeal was affirmed with a negotiated penalty of $3,000. L&I did not seek criminal sanctions since the violations cited were not considered willful (a prerequisite for a referral to a County Prosecuting Attorney).

Immediately following this workplace death, L&I heard from farm worker advocates that they were very concerned about this fatality and that they wanted an emergency rule issued similar to California's emergency heat-stress rule. L&I responded by issuing a hazard alert to the agriculture industry, and then proceeded with a study[5] to determine what was needed to protect workers for the 2006 summer season.

L&I reviewed the workers' compensation injury and illness claims from 1995 through 2005 and found that one other person had died from heat stress in Washington (a lawn-service employee working in the Yakima area). The study also found approximately 450 workers' compensation claims for heat-related

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[1] Wash. Const. art. 2 § 35.
[2] RCW 49.17.010.
[3] RCW 49.17.050(4).
[4] *Rios v. Department of Labor & Industries*, 145 Wn.2d 483, 500, 39 P.3d 961 (2002)
[5] Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine*. A summary of the article is provided below.

illness during the same time period. These fatalities may have been prevented with rules that are more protective of workers.

Based on this information, L&I evaluated its existing rules to determine if they adequately addressed heat-related illness. These rules are available in Appendix 1: Pertinent Rules for Heat-Related Illness. After this evaluation, L&I believed that these fatalities and illnesses may have been prevented by adopting a consolidated set of rules specifically addressing heat-related illness issues.

C. Petition for Rulemaking

On January 27, 2007 the Department received the following petition - "Petition for Rulemaking: Permanent Rules Protecting Outdoor Employees From Heat Illness."

The petitioner, Erasto Garcia, and his attorneys, Candelaria Murillo and Daniel G. Ford of Columbia Legal Services, petitioned the Department to adopt permanent rules protecting outdoor workers from heat illness.

They argued permanent rules on heat illness are necessitated by: "(i) the severity of the health effects associated with occupational heat illness, including three documented heat-related illness deaths in Washington State in the last three summer seasons; (ii) the threat of exposure inherent in working outdoors during the hotter months in Washington; and (iii) the significant risk of heat illness among farm workers and other outdoor workers."[6] As set forth more fully below, an estimated 6 million workers in United States are exposed to occupational heat stress.

In addition, the petitioner argued that heat illness prevention is feasible, has been determined to be effective in reducing outdoor workers' exposure to heat illness, and has been mandated in California. The petitioner further argued the Washington Industrial Safety and Health Act (WISHA) requires L&I to adopt feasible and necessary rules to protect the health and lives of Washington workers.

The petitioner provided a suggested draft rule for L&I's consideration. L&I responded by clarifying that a CR-101 (Preproposal Statement of Inquiry) had been filed communicating L&I's intention to initiate a permanent rulemaking.

D. Health Effects Associated with Heat-Related Illness

Heat-related illness is a hazard recognized by the Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), Center for Disease Control (CDC), as well as industry associations and employee representatives. The numbers of employees potentially exposed to heat-related illness hazards include many industries and regional areas of the State. L&I also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. The extract below explains the health effects of heat-related illness:

[6] Petition for Rulemaking: Permanent Rules Protecting Outdoor Employees from Heat Illness, p. 1, ¶ 1.2.

Minor heat illnesses include heat cramps and heat exhaustion. Major heat injuries include EHI, exertional rhabdomyolysis, and heat stroke. The diagnostic categories of heat exhaustion, EHI, and heat stroke have overlapping features and should be thought of as different regions on a continuum rather than discrete disorders, each with its own distinct pathogenesis.

Figure 4-1 depicts the spectrum of heat casualties in terms of severity and categories of physiological dysfunction (hyperthermia, dehydration, nephropathy, cell lysis, encephalopathy). Whatever category is diagnosed, all are related to elevation of body core temperature and the metabolic and circulatory processes (including change in fluid and electrolyte balance) that are brought about by heat strain from exercise, environment and the body's thermoregulatory response.

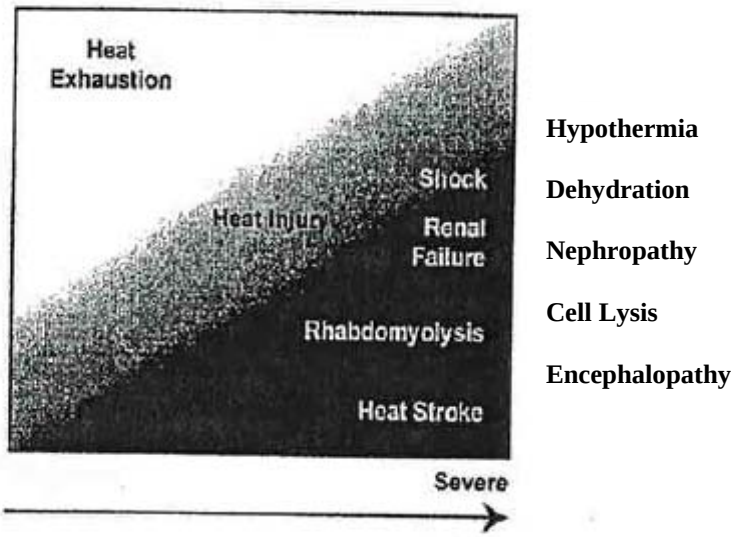


Figure 4-1. Spectrum of heat casualties, encompassing the continuum of mild (heat exhaustion) to sever (heat stroke) with association categories of physiologic dysfunction.[7]

E. Fatality Summaries

During the review of occupational heat-related illness claims in Washington State, L&I discovered four fatalities that occurred as a result of heat-related illness. A summary of these fatalities is presented below.

<u>Yakima, WA – May 1997</u>

A 35-year old male, previously employed indoors, died of heat stroke during his first day of employment outdoors mowing lawns on May 12, 1997. The patient's internal temperature was 111°F. The high temperature for that day was 88°F. The employee had been mowing lawns and in the afternoon he was feeling tired and he was told to go to the company truck to rest. When another employee checked on him, he was talking to himself and would not respond to his co-worker. His brother was called over and he could not get a response so 911 was called. He died shortly after arriving at the hospital after going into full cardiopulmonary arrest. The official cause of death was listed as hyperthermia. His brother stated that the employee did not drink fluids readily since the water that he had brought had become hot.

[7] Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

Vancouver, WA – July 2004
A 39-year old male roofer was working on a roof in the sun doing tar work when he collapsed on July 12, 2004. The day's temperature was about 90 degrees at the time of the incident. The employee was minimally responsive when medics arrived and had a rectal temperature of 108 degrees when measured at the hospital. The employee had an underlying alcoholism problem and went through alcohol withdrawal while in the hospital. The diagnoses were heat stroke with dehydration, shock liver, and alcoholism. He was released from the hospital on July 16, 2004 but had on going problems with feeling weak and bloated, dizziness, short-term memory lapses and multiple medical problems related to his liver disease and associated problems. He entered an alcohol treatment program and was diagnosed with severe preexisting liver disease that was exacerbated by the industrial injury. The employee was placed on a liver transplant list. On May 18, 2006 the employee passed away from liver disease complications.

Moxee, WA - July 2005
A 64-year old male, cutting in a hop field where he had reportedly worked for 40 years, was found unconscious. It is unknown how long he was down before he was discovered. Approximately 8 to 10 minutes later the EMTs arrived and found no vital signs. The EMTs revived a heart rhythm while he was being transported to the hospital where he died several hours later. The death was recorded as heat stroke. The high temperature that day was 99°F. He arrived 5 – 10 minutes late for work that day, uncharacteristic for him, due to not feeling well. He had brought 2 gallons of water with him that day but had drank all of it by lunchtime. The workers normally brought their own water to work. The foreman had not brought water for the employees that morning. The employees would work down rows individually and would check in with each other at the end of a row. The employees were allowed to take breaks whenever they needed one. The employees were paid by how many rows they completed versus being paid by time. Each row was approximately 350 feet long (a little longer than a football field). The decedent had completed one row already that day. He was found approximately 1/3 down a row between 11:15 and 11:30 a.m. The employees had taken a break right before he was found. The employer did not provide heat stress training. The employer did place a reminder sticker to increase fluid intake in hot weather on the paychecks.

Carson, WA – June 2006
A 27 year old male was working with a utility contractor laying an underground water line along a public road on June 26, 2006. The employee was working in the trench with the pipe placement plus jumping out to retrieve tools and materials. Between 2:30 and 3:00, the individual became disoriented and was told to rest in the shade. Soon after, he lost consciousness. He never regained consciousness and died on July 1, 2006. His date of hire was June 16, 2006. The temperature ranged from 82 to 105 degrees Fahrenheit that day and the employee's temperature was 107 degrees when taken by EMS upon arrival.

F. Hospitalization Summaries
During L&I's review of heat-related illness claims in Washington State, many cases of hospitalization were discovered. The summaries below provide an overview of 2 cases that were brought to L&I's attention during the rulemaking process.
Seattle, WA – June 2000
A 47-year old male firefighter suffered heat-related illness and lost consciousness on a ladder while conducting a training exercise. The patient was holding a weighted dummy. A fellow firefighter tried to hold him up on the ladder but was unsuccessful. The patient fell approximately 35 feet to the ground below. Although the patient did not pass away from his injuries, he was determined to have a permanent partial disability as a result of the incident and was unable to return to work in his current position.
Southwestern Washington – August 1999
A 23-year old male suffered heat stroke during his first day of employment as a choker setter for a logging operation on August 23, 1999. His body temperature at the time he was admitted to the hospital was 106.7°F. Reports suggested that he had been prevented by his supervisor from drinking water. Severe dehydration, reduced ability of the body to cool itself due to heavy protective clothing, and a high metabolic (work) heat load combined to overwhelm this individual's thermoregulatory responses. Although the patient survived, he continued to suffer from liver dysfunction and other chronic health issues resulting from the incident. The high temperature on the date/place of occurrence could not be determined.

G. Injury and Illness Claim Review

L&I reviewed accepted claims resulting from heat-related illness. Although L&I believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors L&I considered when evaluating the need to initiate rulemaking to address this hazard. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders).

The Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims in Washington State. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

This report has been published as follows: Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine*. A summary of the article is provided below.

An analysis of HRI cases utilizing workers' compensation data has not been previously reported. Authors used both ICD-9 and ANSI Z16.2 codes with subsequent medical record review to identify accepted Washington State Fund workers' compensation HRI during the 11-year study period. NAICS industries with the highest workers' compensation HRI average annual claims incidence rate were Fire Protection 80.8/100,000 FTE, Roofing Construction 59.0/100,000 FTE, and Highway Bridge and Street Construction 44.8/100,000 FTE. HRI claims were associated with high outdoor ambient temperatures.

Exertional heat stroke occurs sporadically in individuals with high metabolic output rates and is most prevalent during hot and humid weather. Exertional HRI results from high metabolic demands often in combination with hot environmental conditions.

HRI claims were identified by a two step process. First, workers' compensation claims were identified using data systems definitions (selected ICD-9 codes and ANSI-Z16.2 codes). Identified claims underwent physician review to determine if the claim was filed for a HRI. This study was restricted to State Fund claims because ICD-9 codes are not available for self-insured claims.

Of the 946 claims identified using the HRI ICD-9 codes or ANSI Z16.2 type code 151, 492 were HRI claims after medical review of the electronic claim text fields and medical records. Subtracting out employers with a physical location outside of Washington identified 480 HRI claims occurred during the study period.

Of the 480 HRI claims 442 (92.1%) were classified as "non-compensable" (medical only) and 38 (7.9%) were considered "compensable" (greater than 3 lost work days).

The average age of an HRI claimant was 35 years old and the median age was 34 years. The proportion of HRI claimant under 25 years old was significantly more than the proportion of all State Fund claimants under 25 years old. The average age of the worker with an HRI compensation claim was 41 years which is comparable to the average age for all State Fund compensable claimants at 39 years old.

The cumulative cost for the 11-year period for all HRI claims was $895,196 and ranged form $0 to $216,449. Thirty-four claims received time loss compensation ranging from 1 to 659 days.

HRI claim incidence rates by industry sector were highest in Construction at 12.1 per 100,000 FTE, Public Administration at 12.0 per 100,000 FTE, Forestry, Fishing, and Hunting at 5.2 per 100,000 FTE. The distribution of HRI claims differs from that of all State Fund accepted claims with an excess proportion of claims occurring mostly in construction and Public Administration.

Of the 480 claims, 377 (78.5%) occurred as a result of outdoor work. In construction16/159 (10.1%) claims were compensable (lost work days greater than 3 days), while in Agriculture, Forestry and Fishing 7/33 (21.2%) claims were compensable. None of the 85 claims in the Public Administration Sector were compensable.

NAICS Industries with the highest annual claim incidence rates include Fire Protection at 80.8 per 100,000 FTE, Roofing Construction 59.0 per 100,000 FTE and Highway, Street and Bridge Construction at 44.8 per 100,000 FTE. In Roofing Construction, 18.5% (5/27) of the claims were compensable.

HRI claim rates for the third quarter, the reporting period matching the greatest level of exposure to elevated environmental temperatures, far exceed the annual HRI claim incidence rate. The highest third quarter rates by NAICS Industry were for Roofing Construction at 161.2 per 100,000 FTE and for Fire Protection at 158.8 per 100,000 FTE.

Compensable claims were most common in Roofers and Miscellaneous Agricultural workers were 5 of 23 (21.7%) and 4 of 20 (20%) were compensable, respectively.

The average number of HRI claims per year was 44 and the annual number of claims ranged from 28 to 73. From May through September, 456 (95.0%) HRI claims occurred. However, 82.7% of the HRI claims occurred during the 3 months of June, July, and August.

Eighty-eight days during the study period had multiple HRI claims, a cluster, and represent 260 claims or 54.2% of all claims. Eighty-three of the 88 days with a cluster of HRI claims were in June through August. The number of HRI claims in a cluster ranged form 2 to 15 claims. Fifty-five of the 103 (53.4%) indoor claims and 205 of the 377 (54.4%) outdoor claims were part of a cluster.

There were 415 individual employer accounts with an accepted HRI claim during the study period. The number of claims per employer ranged from 1 to 8. Forty employer accounts had more than one HRI claim during the study period. Only two employer accounts had multiple HRI claims in a single day.

Hour of injury was determined for 399 of the 480 claims. Of the 399 claims, 358 (89.7%) occurred between 10 am and 6 pm and 80.4% were from heat exposure outdoors. Approximately 24% of all State Fund workers' compensation claims occur in Eastern Washington but the area accounted for 220 (45.6%) of the HRI claims.

The daily max temperature interquartile range for all HRI claims was 77- 94°F (i.e. 25% of the HRI claims occurred below 77°F, 25% occurred with temperatures above 94°F and the remaining 50%, the interquartile range, were between those two temperatures). The average maximum temperature for the 308 days in which an HRI claim occurred was 80.8°F.

The geographic distribution of claims, Eastern Washington compared to Western Washington, on days with multiple HRI claims compared to days with a single HRI claims did not significantly differ. However, there was a statistically significant difference between the average max temperature for days in which a single claim occurred (Tmax average 80.4°F) and the average Tmax for days with multiple HRI claims (Tmax avg. 88.5°F). When reviewing the daily Tmax for the 3 days preceding the HRI claim, 200 of the 480 HRI claims (41.7%) were noted to have a 10 degree increase in the Tmax.

There were 106 (22.1%) HRI claims here medication use or a medical condition may have played a contributing role to the development of the HRI. Twenty workers reported a history of a previous HRI or treated dehydration but no HRI claimant had filed multiple HRI claims during the study period.

Of the 480 HRI claims, 308 had information on the duration of employment. Of the 308, 43 (14%) claimants reported employment of 1 week or less. For all State Fund claims, the proportion of claimants reporting employment of 1 week or less before their day of injury was 3.3%.

Industries with the highest claim rates reflect those with increased outdoor work exposure. Claims occurring in an indoor environment also were common during the summer months, suggesting a relationship with outside temperatures.

The most apparent risk factor for increased Washington incidence of HRI is higher outdoor temperatures experienced from May through September. It was found that 95% of total HRI claims occurred during these months. Similar results are apparent for other occupational and military studies. July is the month associated with the highest incidence rates for all three studies.

Data suggests a dose-response effect of environmental ambient temperature on HRI claims incidence. The hottest parts of the day, 10 am to 6 pm, coincided with the greatest number of HRI claims. Other data suggest that high exertion levels, alone or in conjunction with high ambient temperatures, increase the risk for HRI. Lack of acclimatization is a well known risk factor for HRI. This data indicates HRI claims occurring within 1 week of employment occurred more than four times as frequently as workers suffering injuries from all causes within that time period.

Cases associated with a cluster of claims were more likely associated with variation in temperature during the days preceding the injury. Thus poor acclimatization may play a larger role in occupational HRI cases than can be measured using the data available.

Awareness of the medical conditions, medications or personal risk factors that place an individual at risk for HRI should be a required component of a training program.

The limitations to this descriptive study include the likely under reporting of HRI to the workers' compensation system and the under recognition of HRI by workers, employers and the medical community. There is a possibility of misclassification of HRI workers' compensation claims to other diagnosis if the injury was poorly described on the workers' compensation claim form.

The current study and work of others indicate that increased summer time outdoor temperatures are associated with higher exertional HRI incidence rates. Consequently, education, planning, and resources aimed at prevention should be in place prior to significant seasonal exposure.

Intervention studies suggest the value of anticipating high temperatures, assessing environmental conditions, and implementing preventative changes that reduce metabolic heat loading when necessary. Current military HRI prevention practices include considerations such as heat illness recognition and prevention training; WGBT based environmental assessment, guidelines for work/rest cycles, and guidelines for water intake.

Optimally, employers should have a comprehensive heat stress prevention program that identifies heat stress hazards, assess the hazards in terms of severity and probability, implements the appropriate controls, and continuously evaluates the effectiveness of these controls. Thus, components of an employers' written comprehensive heat illness prevention program will include engineering controls, appropriate work practices for environmental conditions, employee training, personal protective equipment, and preventive medical practices.

The most apparent association for exertional HRI is exposure to increased ambient temperatures during summer months. Personal risk factors including co-morbid medical conditions, medications, illicit drug and alcohol use and limited acclimatization were present in some cases. Incorporation of prevention programs into the workplace may increase recognition and promote the prevention of HRI.

H. Chronological Summary of Outdoor Heat Exposure Rulemaking Project

July 2005	65 year-old male dies cutting weeds in a hop field near Yakima on July 18, 2005. Temperature was in the 90's.
	Representative Phyllis Kenney and Mexican Consulate work with L&I Director Gary Weeks on responsive action to death.
December 2005	Department distributes first draft HRI rule for stakeholder comment.
January 2006	Department meets with stakeholders to discuss draft rule language.
February 2006	Department discusses the HRI draft with the WISHA Advisory Committee.
March 2006	Department distributes an updated HRI draft and works with stakeholders on language.
June 2006	Department adopts an emergency rule on June 1, 2006. The emergency rule changes language in an existing rule in WAC 296-62-09013 to apply the requirement to the outdoor environment. The rule is in effect for 120 days.
May 2006	41 year-old male dies after experiencing heat stroke in July 2004. His death was determined to be a result of the heat stroke event.
July 2006	27 year-old male dies after experiencing HRI on June 26, 2006 laying pipe in near Vancouver, WA. Temperature was approximately 100ºF.
September 2006	The 2006 emergency rule expires on September 28, 2006.
November 2006	Department meets with stakeholders to discuss 2006 emergency rule.
December 2006	The Department files a CR-101 (preproposal) on December 19, 2006.
January 2007	Department receives a petition for rulemaking from Columbia Legal Services.
February 2007	Department meets with stakeholders to discuss draft HRI rule.
April 2007	Department distributes draft emergency rule to stakeholders on April 16, 2007. Training materials and the training course schedule was also distributed.
June 2007	Emergency rule is adopted on June 5, 2007 with enforcement delayed until June 18, 2007 and July 1, 2007. The rule is in effect for 120 days.
August 2007	Department begins to solicit comments of the emergency rule language.
September 2007	Department holds stakeholder meetings on the draft language around the state.
October 2007	The 2007 emergency rule expires on October 3, 2007.
November 2007	Department meets with a business-labor committee to discuss draft rule language.

March 2008	Department files a proposed HRI rule on March 19, 2008 and begins accepted written comment on the proposed language.
April 2008	Department holds a public hearing in Tumwater, WA on April 28th.
	Department holds a public hearing in Bellingham, WA on April 29th.
	Department holds a public hearing in Yakima, WA on April 30th.
	Department holds a public hearing in Richland, WA on April 30th
May 2008	Department holds a public hearing in Spokane, WA on May 1st.
	Department holds a public hearing in Seattle, WA on May 2nd.
	Department extends comment period from May 2, 2008 to may 9, 2008.
June 2008	Department adopts a permanent outdoor heat exposure rule.

II. Outdoor Heat Exposure Policy Rationale

Background Information for Developing the Policies of WAC 296-62-095, Outdoor Heat Exposure.

Trigger Temperatures

The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by the ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply.

The Department worked with Dr. Thomas Bernard, Ph.D., Chair of the AGCIH Physical Hazards Committee to develop a temperature trigger that would apply to Washington State. This was accomplished using the WBGT method.

The WBGT formula is as follows:

With direct exposure to the sun: $WBGT = 0.7T_w + 0.2T_g + 0.1T_d$

Without direct exposure to the sun: $WBGT = 0.7T_w + 0.3T_g$

T_w= Natural wet-bulb temperature (humidity indicator)

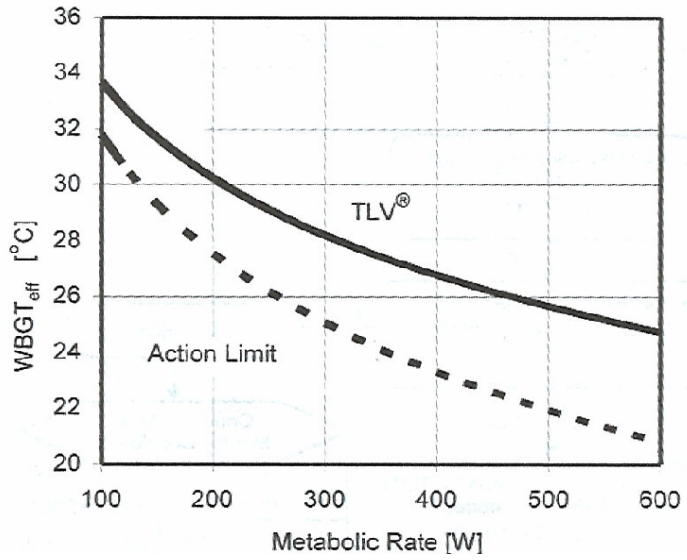
T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation)

T_d=Dry-bulb temperature (normal air temperature)

The outcome being looked for was to solve the equation for the dry bulb temperature. In order to do this, definition of the other factors was needed to hold them as a constant. To start, the WBGT outcome needed to be defined.

To do this, a work rate of 300 watts was chosen. Although this is considered a moderate level of work, Dr. Bernard believed that this is the highest level of work the average person can sustain for an 8-hour workday. There may be periods where workers exceed this work rate, but then they will either take a short break or perform tasks that are at a lower work rate.

It was also assumed that workers are unacclimatized and therefore the action limit of the below curve was used instead of the TLV curve.



Taking a metabolic work rate of 300 on the action limit curve, the limit on the curve equals to 25° C or 77° F. This is the WBGT number.

The next factor to establish was the wet bulb measurement. Relative humidity is normally used for this, but it is variable throughout the day and from day to day. Another way to look at the wet bulb is by using the dew point. In reviewing the Washington State dew points for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard calculated that a dew point of 50° F was the average within two standard deviations for Washington State and could be used as a constant for the wet bulb.

Dr. Bernard took this information and using a publicly available Excel® workbook that he developed (http://personal.health.usf.edu/tbernard/thermal/index.html) estimated the WBGT by changing the dry bulb temperature until the action limit was found. The clothing adjustments come from Dr. Bernard's research and were used in the equation.

This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point.

Incidental Exposure

The Outdoor Heat Exposure rule was not intended to include workers that only went outside for short durations during their work shift. For example, individuals collecting shopping carts at stores or forklift drivers that occasionally go outside to unload a truck. Tom Bernard, Ph.D., Chair of the AGCIH Physical Hazards Committee, was asked if there was an amount of time that employees could be exposed to extreme temperatures without ill effects and could be incorporated into the definition of incidental exposure.

Dr. Bernard's research determined that if employee exposure was less than 15-minutes per hour to the outdoor environment, employees should not have health effects resulting from heat-related illness. This15-minute period is consistent with the Wet-Bulb Globe Thermometer (WBGT) values and the work-rest cycle for working in hot environments. When employees are doing very heavy work, the allocation of work in a cycle of work and recovery is up to 25% work with 75% rest or 15-minutes of work out of an hour.[8]

[8] American Conference of Governmental Industrial Hygienists (2007). "Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)."Cincinnati, Ohio.

Outdoor Heat Exposure Program

The Department reviewed several research articles and studies regarding the measures and steps employers need to have in place in order to prevent the occurrence of heat related illness. The research articles and studies all emphasize the importance of implementing procedures to reduce exposure to and incidence of heat related illness.[9] Employers should have a comprehensive heat stress prevention program in place prior to seasonal exposure that identifies heat stress hazards, assesses the hazards in terms of severity and probability, implements the appropriate controls, and continuously evaluates the effectiveness of these controls.[10] Specifically, components of an employers' written comprehensive heat illness prevention program must include engineering controls, appropriate work practices for environmental conditions (including information on daily water requirements for hot environments and provisions to supply this water), employee training, personal protective equipment, and preventive medical practices.[11] Further, the studies emphasize that, preventing the occurrence of heat related illness requires knowledge and vigilance on the part of employers, management, and employees, and that employers must play an active role in preventing workers from experiencing heat related illness.[12]

Based these research articles and studies, including best practices, the Outdoor Heat Exposure rule requires employers to ensure their Accident Prevention Program addresses outdoor heat exposure. WAC 296-62-09530(1)(a).

Drinking Water

Numerous studies and research articles examine the importance of hydration and increasing the amount of water supplied to employees working in hot environments. The studies and articles establish that exposure to heat increases an employee's sweating rate and the body's water needs.[13] Employees performing moderate activities in hot environments may need 6 – 8 quarts of water per day; employees performing heavy work activities in hot environments may need 9 – 12 quarts of water per day.[14] Thirst is not an accurate indicator of the body's need for hydration and should not be used as a guide to fluid replacement; if thirst alone is used to guide fluid replacement, adequate hydration lags behind fluid needs for several hours and can lead to heat related illness.[15] The studies state that it is therefore important to establish drinking schedules and encourage frequent consumption of water.[16] The Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH) recommend workers drinking one cup of water every 20 minutes for work in warm environments and further indicate that deficits >2% of body mass can adversely impact on aerobic performance, orthostatic tolerance and cognitive function.[17]

Individuals with severe body water losses like those associated with physical work may require several hours of continued rehydration to reestablish water balance in the body.[18] If the fluid is not replaced by drinking water, dehydration will occur.[19] Dehydration of over 2% of an individual's body weight significantly degrades endurance but that fluid intake of one liter per hour is sufficient to prevent this fluid

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9 Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

[10] Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine* (in press).

[11] *Id.*; Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

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[13] *Id.*

[14] *Id*.

[15] *Id*.

[16] *Id*.

[17] Kenefick, Robert and Michael Sawka (2007). "Hydration at the Work Site," *Journal of the American College of Nutrition*, Vol. 26(5): 597S-603S.

[18] *Id.*

[19] Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

loss.[20] Significantly, a study of six healthy young men working in hot conditions found that subjects who forced themselves to drink water at the same rate they lost sweat felt well enough to continue at the same rate all day while the longer other subjects went without water during the exercise, the worse their symptoms became until they were not able to continue as a result of dehydration.[21] Additional studies found that significant deterioration in mental function for all the functions, i.e., short-term memory, arithmetic efficiency, and visumotor tracking involving motor speed and attention, occurred when dehydration of over 2% of an individual's body weight occurred.[22] Heat stress slows reaction and decision times, increases the likelihood of errors of omission, and that task performance will degrade slightly after 30 minutes and markedly after 2 to 3 hours of exposure.[23]

Prevention of HRI should center on recognizing when increased risks are present, minimizing fluid and electrolyte depletion, training the worker on the appropriate intake of fluids, use of appropriate clothing for hot environments, and assessing the appropriate level of work activity that can be performed safely in work environments with elevated temperatures.[24]

Based on these research articles and studies, including best practices, the Outdoor Heat Exposure rule requires employers to ensure sufficient quantities of water are available to employees and to increase the quantity supplied to ensure employees have access to one quart of water per hour when the temperature action levels of Table 1 are met or exceeded. WAC 296-62-09540(1). Employers are not required to start the work day with the entire quantity of water supply that may be needed, but must have effective procedures to replenish the water supply when necessary. WAC 296-62-09540(2).

Responding to Signs and Symptoms of Heat-Related Illness

Significant research has been conducted on the importance of quick response to an individual suffering from heat-related illness. All articles agree that rapid response and efforts to quickly cool an individual suffering heat-related illness are key in preventing permanent disability or death. Early initiation of cooling and rehydration are critical steps.[25] Delay in cooling was found to significantly contribute to permanent disabilities and even death.[26] Indeed, a study of 4 cases of heat stroke in healthy subjects found that, in 2 cases where the individuals were rapidly cooled shortly after collapse, the individuals did not experience permanent injury, while the other 2 subjects who did not receive attention for more than 3 hours after collapse both died.[27] The research also points out that severe heat illness, or heat stroke, can cause permanent irreversible damage to the heart, lungs, kidneys, and liver with a strong association between heat illness and later fatal cardiac events.[28] The research concludes that there is a limited window of opportunity within which effective cooling can influence prognosis.[29]

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[20] Cheuvront, Samuel, Robert Carter III, and Michael Sawka (2003). "Fluid Balance and Endurance Performance," Current Sports Medicine Reports, 2(4):202-208.

[21] G.C. Pitts, R.E. Johnson and F.C. Consolazio with the technical assistance of J. Poulin, A. Razoyk and J. Stachelek, Work in the Heat as Affected by Intake of Water and Salt Glucose, The Fatigue Laboratory, Harvard University, Boston, Massachusetts, June 10, 1944.

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[23] Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

[24] Bonauto, David, Brian Burke, Edmund Rauser, and Robert Anderson (2006). "Heat-related Illness in Washington State, State Fund Workers' Compensation Claims, 1995-2004: Technical Report Number 59-1-2006." Olympia, WA: Washington State Department of Labor and Industries, Safety & Health Assessment & Research for Prevention (SHARP).

[25] Heled, Y., M. Rav-Acha, Y. Shani, Y. Epstein, and D. Moran (2004). "The 'Golden Hour' for Heatstroke Treatment," *Military Medicine*, Vol. 169(3): 184-186.

[26] *Id.*

[27] *Id*.

[28] Wallace, Robert, David Kriebel, Laura Punnett, David Wegman, and Paul Amoroso (2007). "Prior heat illness hospitalization and risk of early death," *Environmental Research*, 104: 290-295.

[29] Heled, Y., M. Rav-Acha, Y. Shani, Y. Epstein, and D. Moran (2004). "The 'Golden Hour' for Heatstroke Treatment," *Military Medicine*, Vol. 169(3): 184-186.

As to the method of reducing the body temperature, studies suggested that immersion in iced water is the most effective method of whole body cooling, and should be used where possible.[30] If immersion is unavailable or inappropriate, cooling may necessarily involve a combination of evaporative cooling techniques and other methods such as immersion of the extremities in cold water.[31] The emphasis is placed on reduction of core temperature as quickly as possible, as it has been suggested that the major determinant of outcome in heatstroke is the duration of hyperthermia.[32]

Based on these research articles and studies, including best practices, the Outdoor Heat Exposure rule requires employers to relieve employees showing signs or demonstrating symptoms of heat related illness from work and to provide the employee with a sufficient means to reduce the body temperature. WAC 296-62-09550(1). The rule further requires employers to monitor employees showing signs or demonstrating symptoms of heat related illness to determine whether additional medical attention is necessary. WAC 296-62-09550(2).

Information and Training

Research regarding methods necessary to prevent and control heat-related illness establishes that education and training on heat-related illness signs and symptoms are critical factors in successful management of heat stress. Studies found that, optimally, employers had a comprehensive heat stress prevention program that included engineering controls, work practices, ***employee training*** and preventive medical practices to reduce the incidence of heat-related illness in place prior to seasonal exposure.[33] The research revealed that, where workers were well informed about the cause, effects, signs, and symptoms of heat-related illness, workers did not suffer dehydration.[34] In addition, awareness of personal factors such as medical conditions, medication use alcohol or illicit drug use, and limited acclimatization, was critical for employee training.[35] Further, research found that education of workers was vital to ensure they come to work hydrated and maintain their hydration during the work shift.[36] In addition, studies showed that it is important for employees to be trained on signs and symptoms of heat-related illness so that they could monitor their co-workers (the "buddy system") and could pay attention to their own heat tolerance and needs.[37]

Based on these research articles and studies, including best practices, the Outdoor Heat Exposure rule requires employers to provide training on heat related illness to employees and supervisors prior to outdoor work and annually thereafter. WAC 296-60-09560. Consistent with the research guidance, employees must receive training on environmental factors contributing to heat related illness, general awareness of personal factors that may increase an employee's susceptibility to heat related illness, the importance of removing heat-retaining personal protective equipment during breaks, the importance of frequent consumption of water, the importance of acclimatization, and the importance of immediately reporting signs or symptoms of heat related illness in themselves or co-workers. WAC 296-62-09560(1). In addition, employers must train supervisors on elements of employee training, the procedures supervisors must follow to implement the Outdoor Heat Exposure rules, the procedures a supervisor must follow if an employee exhibits signs or symptoms of heat related illness (including emergency response

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[30] Smith, JE (2005). "Cooling methods used in the treatment of exertional heat illness," *British Journal of Sports Medicine*, Vol. 39: 503-507.
[31] *Id.*
[32] *Id.*
[33] Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine* (in press).
[34] Brake, DJ and GP Bates (2003). "Fluid losses and hydration status of industrial workers under thermal stress working extended shifts," *Occupational and Environmental Medicine*, Vol. 60(2): 90-96.
[35] *Id.*; Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine* (in press).
[36] Brake, DJ and GP Bates (2003). "Fluid losses and hydration status of industrial workers under thermal stress working extended shifts," *Occupational and Environmental Medicine*, Vol. 60(2): 90-96.
[37] Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

procedures), and the procedures for moving or transporting an employee to a place where the employee can be reached by an emergency medical provider, if necessary. WAC 296-62-09560(2).

III. Literature Review

Extensive research has been conducted about the causes and effects of heat illnesses and other industrial injuries or illnesses. This document presents a summary of literature relevant to the Outdoor Exposure to Heat rule.

The following documents have been reviewed. Texts of the reviews follow this listing, on the page numbers listed.

Article Number and Title ***on page***

1. Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force..... 24

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4. Below, PR, R Mora-Rodriguez, J Gonzalez-Alonso, and EF Coyle (1995). "Fluid and carbohydrate ingestion independently improve performance during 1 h intense cycling," Medicine & Science in Sports & Exercise, Vol. 27: 200-210. 29

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Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health 74

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1. **Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.**

   This is a guideline developed by the military to help prevent and control HRI in recruits during basic training and while deployed in hot environments. The U.S. Army employs the WBGT index to mark levels of environmental heat stress. Mental performance degrades the most in boring, monotonous and repetitive tasks.

   In addition, tasks that require attention to detail, concentration, and short-term memory and are not self-paced may degrade from heat stress. Heat stress slows reaction time and decision times. Routine tasks are done more slowly. Errors of omission are more common. Vigilant task performance will degrade slightly after 30 minutes and markedly after 2 to 3 hours.

   Dehydration (greater than 2 percent BWL) adversely affects mental function (for example, serial addition, response time and word recognition) during heat exposure. These performance decrements probably increase with the level of dehydration.

   Soldiers can effectively operate in any naturally occurring hot environment if they are heat acclimatized, consume adequate water and diet (for example, salt), and have sufficient shade and rest. Successful management of heat exposure results in optimal work capabilities and prevention of heat illness/injury.

   Successful management of heat stress depends on proper education of leaders and troops exposed to heat. Leaders must implement procedures to alert troops of dangerous heat stress levels and must apply interventions to reduce exposure and increase resistance of exposed soldiers. Being alert to signs of soldier distress in the heat is critical so that management procedures can be adjusted accordingly.

   The recommended threshold WBGT value for initiating hot weather guidelines is 75°F depending on the work intensity. As the WBGT value increases, physical work intensity should be reduced (or more frequent and longer rest periods), or under extremely severe conditions (WBGT index greater than 90°), possibly suspended. Work schedules should be customized to the climate, work intensity and military situation.

   Microclimate cooling systems are effective in alleviating heat stress and extending exercise capabilities in soldiers wearing protective clothing or exposed to uncompensable heat stress (UCHS) conditions.
   Microclimate cooling systems use circulating cooled air or liquid in tubes over the skin or ice packet vests to remove body heat.

   In addition, microclimate cooling facilitates heat loss by maintaining the temperature gradient between the body core and the cooled skin. The amount of heat transferred

from the body to any microclimate system is dependant on several factors: the amount and location of body area covered by the device, coolant temperature, flow rate, skin temperature, and insulation from the ambient heat.

Heat stress increases the sweating rate and therefore body water needs. If fluid is not fully replaced, then dehydration will occur. The myth that soldiers can adjust to decreased water intake has been proven wrong many times. Thirst does not adequately motivate personnel to promptly consume sufficient fluids to replace sweat losses in hot environments. If thirst alone is used to guide fluid replacement, adequate hydration lags behind fluid needs for several hours.

Establish drinking schedules and encourage and monitor drinking. Make water more palatable, if possible, by cooling (50° to 60° F) and lightly flavoring with citrus fruit flavors or extracts.

Knowledge of daily water requirements for hot environments is important for planning purposes. Soldiers will consume from ~3 to 12 qt/day during military training in hot climates. Inactive soldiers in shaded areas might require ~3 to 5 qts, those performing moderate activity (most soldiers) might require ~6 to 8 qts, and very active soldiers (particularly in desert environments) might require ~9 to 12 qts/day.

If soldiers perceive they need additional sodium, such as the first several days of hot weather, this can be achieved by salting food to taste. Salt tablets are not recommended as their misuse has resulted in gastrointestinal discomfort and incapacitating nausea.

Sports drinks are an effective source for electrolyte replacement during prolonged (>4 hours) periods of profuse sweating in hot weather. The primary concerns with sports drinks are their caloric density. Therefore, sports drinks should be used during conditions described above and not to totally replace water consumption.

Soldiers should be familiar with the signs and symptoms of heat illness and injury so that they can seek medical support.

All soldiers suspected of having heat injury must have early initiation of cooling and rehydration in the field. Delay in cooling probably represents the single most important factor leading to death or residual, serious disability in those who survive.

Body cooling is the treatment foundation and must be initiated as soon as possible, using the most practical means available.

Both cool and ice water immersion are the most effective methods in lowering body temperature.

2. Department of the Army and Air Force (2003). "Technical Bulletin: Heat Stress Control and Heat Casualty Management." Washington, DC: Headquarters, Department of the Army and Air Force.

This 78-page manual gives extensive detailed information about recognizing and responding to heat stress from many perspectives, including the perspective of a soldier who may become a heat casualty. This manual emphasizes acclimatization, hydration, reduced activity during acclimation, and increased rest periods in shade during both strenuous activity and hot parts of the day.

It points out that keeping soldiers from experiencing heat illness requires knowledge and vigilance not only on the part of the soldiers but also on the part of commanders, officers, and medical personnel. This suggests the importance of employers playing an active role in preventing their workers from experiencing heat illness.

The statement, "Thirst does not adequately motivate personnel to promptly consume sufficient fluids to replace sweat losses in hot environments" proves the inaccuracy of employer and worker assertions that workers can appropriately tell when to drink and how much. This statement also demonstrates the need for employer and worker education that is compelling enough to overcome this deeply held, but erroneous, belief.

The bulletin also points out the importance of soldiers watching out for each other (buddy system) in spotting heat illness in its early stages, since one effect of heat illness is impaired judgment. People going into heat stress are less able to accurately assess their own state and so are less able and therefore less likely to take corrective action for themselves. This supports the HRI rule's requirements for education and training about the signs and symptoms of heat illness not only in oneself but in others.

Significantly, it points out the necessity of attending to one's own heat tolerance on any given day, since guidance provided is for the 'average' soldier and individual responses to any environment vary from person to person and from day to day. This insight supports the need specified in the HRI rule for constant re-assessment of weather and work conditions, levels of work intensity, and work duration across a number of days, not just a single day.

Of key interest from a safety perspective, the bulletin states that "Mental performance degrades the most in boring, monotonous, and repetitive tasks," that "Heat stress slows reaction time and decision times. Routine tasks are done more slowly. Errors of omission are more common," and that "Vigilant task performance will degrade slightly after 30 minutes and markedly after 2 to 3 hours." These observations have serious safety implications for repetitive work tasks that happen in potentially dangerous work environments, such as with roofing, framing, and construction.

3. Ashley, C. D., C. Luecke, S. Schwartz, M. Islam M, T.E. Bernard (2008) "Heat strain at critical WBGT and the roles of clothing, metabolic rate and gender. International Journal of Industrial Ergonomics," (in press)

WBGTcrit was the WBGT five minutes prior to a loss of thermal equilibrium and represents the upper limit of thermoregulatory control.

It is expected that there will be individual variations in heat strain for the same level of heat stress. That is, core temperature, skin temperature and heart rate are different across individuals under the same heat stress conditions. Individual factors that contribute to heat strain are acclimation state, fitness, and gender.

Gender differences in thermoregulation become more apparent with greater thermal loads. Lower aerobic capacities for women increase the relative workload of a given task and smaller blood volumes in women result in higher heart rates. Generally, women rely more on convective heat loss, an advantage in warm wet environments, while men rely more on evaporative heat loss, an advantage in hot dry environments.

The higher heart rate, skin temperature, and core temperature in women when exposed to the heat may be due to differences in maximal aerobic capacity where men tend to have higher values than women. When subjects are matched on maximal aerobic capacity, there is no gender effect on heart rate or core temperature.

As expected, physiological strain index (PSI) values increased with exercise intensity and heat load. No significant difference in PSI was found between men and women matched on fitness at the same exposure. Fit men had significantly lower PSIs than unfit men and matched women.

Two primary questions for this paper, (1) what is the physiological strain at the WBGTcrit in five different clothing ensembles? And (2) Does gender affect the level of heat strain at WBGTcrit? A secondary purpose is to explore the role metabolic rate may have on heat strain at WBGTcrit.

The different values for WBGTcrit among ensembles were expected and reported elsewhere. The physiological strain at the WBGTcrit for all participants was not different among ensembles. The progressive WBGT protocol confounds the interactions between the clothing and the external environment making it difficult to comment on the results based on environmental factors.

For the sub-study data, the results provide evidence that work rate affects the WBGTcrit as well as the markers of physiological strain. As the metabolic level increased, there was a concomitant decrease in WBGTcrit. No gender effects were observed with the sub-study data likely due to the small number of women subjects. It is noteworthy that although not statistically significant, women had a higher heart rate and corresponding PSI at every metabolic level. Interestingly, skin temperature decreased with an increase in metabolic level.

Among a wide range of ensembles, no differences in heat strain were found among ensembles for a moderate rate of work at the critical environments (at 50% rh). There were no gender differences in WBGTcrit in acclimatized participants when normalized metabolic rates were similar between genders. This finding meant that gender (or fitness for which gender is a surrogate)
does not affect the critical conditions. When adjusted for metabolic rate, there were no significant gender differences in skin temperature at WBGTcrit.

However women did experience a greater heat strain at WBGTcrit evidenced by greater heart rate, core temperature and PSI. As expected, metabolic level and clothing do affect critical conditions and heat strain. Increasing the metabolic rate will lower the critical conditions but increase the physiological strain reflected in heart rate, core temperature, and PSI.

4. Below, PR, R Mora-Rodriguez, J Gonzalez-Alonso, and EF Coyle (1995). "Fluid and carbohydrate ingestion independently improve performance during 1 h intense cycling," *Medicine & Science in Sports & Exercise*, Vol. 27: 200-210.

Below *et alia* (1995) studied the effects of fluid and carbohydrate (CHO) on exercise performance, core temperature, and heart rate during intense cycling. They reported that the literature demonstrates that carbohydrate ingestion can improve performance and delay fatigue during low intensity and moderate exercise.

The authors conducted the study to determine the effects of CHO and/or fluid replacement on short duration, high intensity exercise (cycling for one hour). Their goal was to evaluate the main effects of fluid replacement and CHO consumption when given alone, as well as their potential interaction when given together.

Subjects ingested either a large amount (~1330 ml) of water or a small amount (~200 ml) of water or a large amount (~1330) of a 6% CHO solution of a small amount (~200 ml) of a 40% maltodextrin solution. Results were pooled and the authors determined that both fluid replacement and CHO ingestion, independently, improved performance (6.5 and 6.3% respectively). When fluid and CHO were given together, performance was improved by about 12%.

This indicates an additive effect and not a synergistic effect, meaning that the effects of water and CHO combine but do not enhance one another. In addition larger mounts of water reduced heart rate, core temperature and perceived effort temperature but larger amounts of CHO did not.

This demonstrates that the effect of CHO on performance is independent. Also, the authors state that the mechanism by which CHO enhances performance is not entirely clear.

5. Bernard, T.E. (1999). "Heat stress and protective clothing: an emerging approach from the United States." Annals of Occupational Hygiene. Vol. 43: 321-327.

Because protective clothing affects the level of heat stress, investigators have reported the effect of various ensembles in terms of changes in WBGT. The ACGIH proposed adjustment factors for four clothing ensembles in the 1990 TLV and adopted there in 1991.

The principal purpose of this paper is to present a rationale for the assignment of WBGT-based adjustments for protective clothing ensembles and how data might be developed to account for a broader range of clothing materials and construction practices within the rational method of required sweat rate analysis.

The author collected from various sources and put into a table clothing adjustment factors based upon the best current data available. These clothing adjustment factors can be used to better protect workers when wearing various PPE.

The basic approach is to treat ordinary work clothes as the baseline ensemble. This was done to reflect the fact that the WBGT-based thresholds were developed for work clothes. The clothing adjustment factor represents the equivalent increase in environmental WBGT that the clothing represents.

These estimated values can be used as a starting point until other data become available using techniques to more clearly parse out the intrinsic contributions of the clothing elements to insulation and evaporative resistance. A spreadsheet method for required sweat rate has been developed that uses these factors.

By understanding the change in physiological burden that protective clothing may add, a better determination of whether heat stress will be a factor in the work can be made. In addition, the understanding supports methods such as the required sweat rate to point toward alternative clothing ensembles under engineering controls and the prescription of safe work times under administrative controls.

This article is a summary of previous work and gives background for why different temperature action levels are used for different clothing ensembles.

6. **Bernard, T.E., V. Caravello, S.W. Schartz, C.D. Ashley (2008). "WBGT clothing adjustment factors for four clothing ensembles and the effects of metabolic demands," *Journal of Occupational and Environmental Hygiene* Vol. 5: 1-5.**

This study measured the clothing adjustment factors (CAFs) for four clothing ensembles against baseline of cotton work clothes to determine whether the CAFs would be affected by the metabolic rate.

A three-way mixed effects linear model with ensemble by metabolic rate category interactions demonstrated that the CAF did not change with metabolic rate so CAFs can be used over a wide range of metabolic rates.

Heat stress evaluation requires knowledge of the role clothing plays and the demands of work and the environment. Clothing insulation reduces the effects of dry heat exchange (i.e., convection and radiation) while evaporative resistance modifies the maximum rate of evaporative cooling.

Because WBGT assessments are based on observed (empirical) relationships and not rational (biophysical) relationships, it is more difficult to account for clothing effects based on insulation and evaporative resistance. For this reason, offsets or adjustments for clothing in WBGT units have been sought.

The principal objective of the current study was to examine the effects of metabolic rate on the adjustment factors. Low, moderate, and high rates of work were selected to span the range of nonsedentary work demands.

WBGTcrit was explored for five clothing ensembles at three levels of work. One experimental control was the metabolic rate normalized to body surface area. No significant differences were found among ensembles, which supports adequate control of metabolic rate and no systemic effect on WBGTcrit.

Overall, the clothing adjustment factors were confirmed by the combined data over the three metabolic rate levels. It is clear in this study that as the metabolic rate increases, the WBGTcrit for each ensemble decreases as expected.

The CAFs were not sensitive to metabolic rate and thus do not need to be adjusted for work activity. The CAFs proposed by Bernard et al. were confirmed by the expanded number of participants at the one humidity level.

This study helps give support to previously studied CAFs that can be used to adjust the WBGT. The CAFs did not change as the work rate went up which means that different clothing factors are needed for different rates of work

7. **Bernard, T.E., C.L. Luecke, S. W. Schwartz, K. S. Kirkland, C.D. Ashley (2005). "WBGT clothing adjustments for four clothing ensembles under three relative humidity levels."** ***Journal of Occupational and environmental Hygiene*****. Vol. 2: 251-256.**

The purpose of this study was to determine the clothing adjustment factor for clothing ensembles against a baseline of cotton work clothes and to determine what effect relative humidity may have. Only the vapor-barrier ensemble demonstrated an interaction with humidity level. The authors proposed the following clothing adjustment factors: Cotton coveralls (0°C-WBGT), Tyvek 1424 Coveralls (+1), NexGen Coveralls (+2), and Tychem QC Coveralls (+10).

Determining these factors is important because heat stress evaluation requires knowledge of the role clothing plays as well as the environment and work demands. Clothing insulation reduces the effects of dry heat exchange (i.e., convection and radiation), while evaporative resistance modifies the maximum rate of evaporative cooling.

This study supports the finding that critical WBGT does not change with humidity. Using the work clothes as a baseline, WBGT adjustments for other clothing ensembles can be assigned as the observed differences across humidity levels.

A practical accounting for four clothing ensembles during heat stress exposures at moderate metabolic rate is provided in the form of clothing adjustment factors. The clothing adjustment factor can be added to the measured WBGT and then compared to an occupational exposure limit. The only significant compromise was the need to take a more protective adjustment for vapor-barrier clothing. It is necessary to demonstrate in further investigation that the clothing adjustment factors are applicable at lower and higher metabolic rates.

This study provides background in the reasons for the adjustments to the temperature action levels with the different clothing types and helps to determine how much of an adjustment to make.

8. Bernard, Thomas E. and Pourmoghani, Mehdi (1999). "Prediction of Workplace Wet Bulb Temperature." ***Applied Occupational and Environmental Hygiene*****, Vol. 14: 126 – 134.**

The wet bulb globe temperature (WBGT) is the *de facto* standard to assess environmental contributions to heat stress. A practical problem emerges when the heat stress conditions vary over many locations or during the day. In the laboratory, there was no real difference between the experimental data and the thermodynamic model.

In the application to an aluminum smelter, there was a small overall tendency for the predicted values to be greater than the actual values, but there were no practical differences between the models. The empirical model provided a good match with a slight over-prediction by 0.5°C. Either method of predicting WBGT was effective.

Any heat stress evaluation requires some assessment of climatic conditions, especially air temperature, humidity, and speed, along with the average temperature of the solid surroundings. WBGT has been adopted as an index of climatic conditions in industrial settings by virtue of its recommendations by the ACGIH.

It was originally developed to provide a quick and convenient method to assess conditions that may pose thermal over-exposure threats to military personnel and it has gained acceptance because it is a relatively simple and robust method suitable for field analyses of heat stress.

Once the environmental conditions are assessed by a time-weighted average WBGT and the average metabolic rate is estimated, a decision concerning the level of heat stress can then be made.

It is useful to have a method that can estimate workplace WBGTs from easily measured environmental conditions, such as the ambient conditions outside a facility.

Because heat stress conditions can vary for a variety of reasons, two groups of suggestions have been made. The first was to establish empirical relationships between climatic conditions or WBGT at a reference location and those different locations in the workplace. The second was to model the thermodynamic relationships between the workplace conditions and the sensors of the WBGT measurement relationships and thermodynamic models.

There were no real differences due to air speeds in either set of data.

There was an overall tendency for the predicted values to be greater than the actual values, but there were no practical differences between the models and among the locations.

The level of heat stress in many workplaces is highly sensitive to prevailing weather conditions, which means that the day-to-day variations are large. To overcome these problems, prediction schemes have been proposed.

The thermodynamic model predicted about a 10 percent smaller value for C. That is, the difference would be a 1°C, which was greater than allowable instrument error (0.5°C) but not greater than normal variation in many workplaces. These results tended to support the validity of the thermodynamic model.

In summary, the thermodynamic model appeared to match the globe temperature response from the laboratory data although it tended to overestimate the natural wet bulb temperature in a non-radiant environment by 1°C.

The empirical model provided a good match with a slight and non-significant bias toward over-prediction by about 0.5°C with a standard deviation of 3.0°C. For the same data, the thermodynamic model had an average over-prediction of 0.7°C with a standard deviation of 2.8°C. In both models, ambient air temperature and water vapor pressure were the input parameters, and the increase in air temperature as the air traveled to the location of interest was determined empirically.

Either method of predicting WBGT was effective and there was no clear advantage of one over the other from the point of view of precision. The empirical method required less computation in the prediction process and was conceptually more simple.

9. Bonauto D, Anderson R, Rauser E, Burke B. (2007). "Occupational Heat Illness in Washington State, 1995-2005," *American Journal of Industrial Medicine* (in press).

An analysis of HRI cases utilizing workers' compensation data has not been previously reported. Authors used both ICD-9 and ANSI Z16.2 codes with subsequent medical record review to identify accepted Washington State Fund workers' compensation HRI during the 11-year study period. NAICS industries with the highest workers' compensation HRI average annual claims incidence rate were Fire Protection 80.8/100,000 FTE, Roofing Construction 59.0/100,000 FTE, and Highway Bridge and Street Construction 44.8/100,000 FTE. HRI claims were associated with high outdoor ambient temperatures.

Exertional heat stroke occurs sporadically in individuals with high metabolic output rates and is most prevalent during hot and humid weather. Exertional HRI results from high metabolic demands often in combination with hot environmental conditions.

HRI claims were identified by a two step process. First, workers' compensation claims were identified using data systems definitions (selected ICD-9 codes and ANSI-Z16.2 codes). Identified claims underwent physician review to determine if the claim was filed for a HRI. This study was restricted to State Fund claims because ICD-9 codes are not available for self-insured claims.

Of the 946 claims identified using the HRI ICD-9 codes or ANSI Z16.2 type code 151, 492 were HRI claims after medical review of the electronic claim text fields and medical records. Subtracting out employers with a physical location outside of Washington identified 480 HRI claims occurred during the study period.

Of the 480 HRI claims 442 (92.1%) were classified as 'non-compensable' (medical only) and 38 (7.9%) were considered 'compensable' (greater than 3 lost work days).

The average age of an HRI claimant was 35 years old and the median age was 34 years. The proportion of HRI claimant under 25 years old was significantly more than the proportion of all State Fund claimants under 25 years old. The average age of the worker with an HRI compensation claim was 41 years which is comparable to the average age for all State Fund compensable claimants at 39 years old.

The cumulative cost for the 11-year period for all HRI claims was $895,196 and ranged form $0 to $216,449. Thirty-four claims received time loss compensation ranging from 1 to 659 days.

HRI claim incidence rates by industry sector were highest in Construction at 12.1 per 100,000 FTE, Public Administration at 12.0 per 100,000 FTE, Forestry, Fishing, and Hunting at 5.2 per 100,000 FTE. The distribution of HRI claims differs from that of all State Fund accepted claims with an excess proportion of claims occurring mostly in construction and Public Administration.

Of the 480 claims, 377 (78.5%) occurred as a result of outdoor work. In construction16/159 (10.1%) claims were compensable (lost work days greater than 3 days), while in Agriculture, Forestry and Fishing 7/33 (21.2%) claims were compensable. None of the 85 claims in the Public Administration Sector were compensable.

NAICS Industries with the highest annual claim incidence rates include Fire Protection at 80.8 per 100,000 FTE, Roofing Construction 59.0 per 100,000 FTE and Highway, Street and Bridge Construction at 44.8 per 100,000 FTE. In Roofing Construction, 18.5% (5/27) of the claims were compensable.

HRI claim rates for the third quarter, the reporting period matching the greatest level of exposure to elevated environmental temperatures, far exceed the annual HRI claim incidence rate. The highest third quarter rates by NAICS Industry were for Roofing Construction at 161.2 per 100,000 FTE and for Fire Protection at 158.8 per 100,000 FTE.

Compensable claims were most common in Roofers and Miscellaneous Agricultural workers were 5 of 23 (21.7%) and 4 of 20 (20%) were compensable, respectively.

The average number of HRI claims per year was 44 and the annual number of claims ranged from 28 to 73. From May through September, 456 (95.0%) HRI claims occurred. However, 82.7% of the HRI claims occurred during the 3 months of June, July, and August.

Eighty-eight days during the study period had multiple HRI claims, a cluster, and represent 260 claims or 54.2% of all claims. Eighty-three of the 88 days with a cluster of HRI claims were in June through August. The number of HRI claims in a cluster ranged form 2 to 15 claims. Fifty-five of the 103 (53.4%) indoor claims and 205 of the 377 (54.4%) outdoor claims were part of a cluster.

There were 415 individual employer accounts with an accepted HRI claim during the study period. The number of claims per employer ranged from 1 to 8. Forty employer accounts had more than one HRI claim during the study period. Only two employer accounts had multiple HRI claims in a single day.

Hour of injury was determined for 399 of the 480 claims. Of the 399 claims, 358 (89.7%) occurred between 10 am and 6 pm and 80.4% were from heat exposure outdoors. Approximately 24% of all State Fund workers' compensation claims occur in Eastern Washington but the area accounted for 220 (45.6%) of the HRI claims.

The daily max temperature interquartile range for all HRI claims was 77- 94°F (i.e. 25% of the HRI claims occurred below 77°F, 25% occurred with temperatures above 94°F and the remaining 50%, the interquartile range, were between those two temperatures). The average maximum temperature for the 308 days in which an HRI claim occurred was 80.8°F.

The geographic distribution of claims, Eastern Washington compared to Western Washington, on days with multiple HRI claims compared to days with a single HRI claims did not significantly differ. However, there was a statistically significant difference between the average max temperature for days in which a single claim occurred (Tmax average 80.4°F) and the average Tmax for days with multiple HRI claims (Tmax avg. 88.5°F). When reviewing the daily Tmax for the 3 days preceding the HRI claim, 200 of the 480 HRI claims (41.7%) were noted to have a 10 degree increase in the Tmax.

There were 106 (22.1%) HRI claims where medication use or a medical condition may have played a contributing role to the development of the HRI. Twenty workers reported a history of a previous HRI or treated dehydration but no HRI claimant had filed multiple HRI claims during the study period.

Of the 480 HRI claims, 308 had information on the duration of employment. Of the 308, 43 (14%) claimants reported employment of 1 week or less. For all State Fund claims, the proportion of claimants reporting employment of 1 week or less before their day of injury was 3.3%.

Industries with the highest claim rates reflect those with increased outdoor work exposure. Claims occurring in an indoor environment also were common during the summer months, suggesting a relationship with outside temperatures.

The most apparent risk factor for increased Washington incidence if HRI is higher outdoor temperatures experienced from May through September. It was found that 95% of total HRI claims occurred during these months. Similar results are apparent for other occupational and military studies. July is the month associated with the highest incidence rates for all three studies.

Data suggests a dose-response effect of environmental ambient temperature on HRI claims incidence. The hottest parts of the day, 10 am to 6 pm, coincided with the greatest number of HRI claims. Other data suggest that high exertion levels, alone or in conjunction with high ambient temperatures, increase the risk for HRI. Lack of acclimatization is a well known risk factor for HRI. This data indicates HRI claims occurring within 1 week of employment occurred more than four times as frequently as workers suffering injuries from all causes within that time period.

Cases associated with a cluster of claims were more likely associated with variation in temperature during the days preceding the injury. Thus poor acclimatization may play a larger role in occupational HRI cases than can be measured using the data available.

Awareness of the medical conditions, medications or personal risk factors that place an individual at risk for HRI should be a required component of a training program.

The limitations to this descriptive study include the likely under reporting of HRI to the workers' compensation system and the under recognition of HRI by workers, employers and the medical community. There is a possibility of misclassification of HRI workers' compensation claims to other diagnosis if the injury was poorly described on the workers' compensation claim form.

The current study and work of others indicate that increased summer time outdoor temperatures are associated with higher exertional HRI incidence rates. Consequently, education, planning, and resources aimed at prevention should be in place prior to significant seasonal exposure.

Intervention studies suggest the value of anticipating high temperatures, assessing environmental conditions, and implementing preventative changes that reduce metabolic heat loading when necessary. Current military HRI prevention practices include considerations such as heat illness recognition and prevention training; WGBT based environmental assessment, guidelines for work/rest cycles, and guidelines for water intake.

Optimally, employers should have a comprehensive heat stress prevention program that identifies heat stress hazards, assess the hazards in terms of severity and probability, implements the appropriate controls, and continuously evaluates the effectiveness of these controls. Thus, components of an employers' written comprehensive heat illness prevention program will include engineering controls, appropriate work practices for environmental conditions, employee training, personal protective equipment, and preventive medical practices.

The most apparent association for exertional HRI is exposure to increased ambient temperatures during summer months. Personal risk factors including co-morbid medical conditions, medications, illicit drug and alcohol use and limited acclimatization were present in some cases. Incorporation of prevention programs into the workplace may increase recognition and promote the prevention of HRI.

10. Bonauto, David, Brian Burke, Edmund Rauser, and Robert Anderson (2006). "Heat-related Illness in Washington State, State Fund Workers' Compensation Claims, 1995-2004: Technical Report Number 59-1-2006." Olympia, WA: Washington State Department of Labor and Industries, Safety & Health Assessment & Research for Prevention (SHARP).

This is a summary of the state fund workers' compensation claims for the State of Washington from 1995-2004.

From the BLS data, there were 18 deaths and 1,590 lost work-time claims in the United States in 2004 due to 'Exposure to Environmental Heat'.

During 1995 – 2004 Washington State had two worker fatalities related to heat stroke.

446 state fund claims accepted for HRI from January 1, 1995 to December 31, 2004 (350 were for outdoor workers). 92.4% of these claims were medical-only and 7.4% were considered compensable or more than 3 lost work days and one fatality.

Construction had the highest number of claims of 150 out 446 total for 33.6% and 138 out of 350 total of outdoor exposures.

June, July, and August had 373 (83.6) of the HRI claims over the 10-year period with most claims being filed in July.

For the 359 HRI claims from 1997-2004 the average maximum daily temperature for these claims was 87°F, the median maximum temperature was 89°F and the range of temperature was from 46°F and 111°F.

25% of the HRI claims occurred below 80°F; 25% occurred with temperatures above 95°F and the remaining 50% in-between these two temperatures.

Eastern Washington accounted for 210 (47.1%) of the HRI claims with 22% of the state population.

Of the 446 HRI claims, 291 had information on the 'duration of employment'. Of the 291 claims 40 (13.7) had been employed one week or less. For all state fund claims, the proportion of claimants employed one week or less before their day of injury was 3.3%.

Cumulative cost for the 10 year period for all HRI claims was $574, 052. The range of claim costs for all accepted HRI claims was $0 to $130,905.

The most apparent risk factor for HRI resulting in claim filing is ambient temperature. Prevention of HRI thus centers on recognizing when increased risks are present, minimizing fluid and electrolyte depletion, training the worker on the appropriate intake of fluids, use of appropriate clothing for hot environments, and assessing the

appropriate level of work activity that can be performed safely in work environments with elevated temperatures.

11. Brake, DJ and GP Bates (2003). "Fluid losses and hydration status of industrial workers under thermal stress working extended shifts," *Occupational and Environmental Medicine*, Vol. 60(2): 90-96.

This study found that "involuntary dehydration" did not occur in well-informed workers, which has implications for heat stress standards that do not make provision for full fluid replacement during heat exposures.

All subjects were miners employed in the hottest of four deep, underground mines located within 20 km of each other well inside the tropics of northern Australia.

Where workers were well informed and subject to monitoring, "involuntary dehydration" (if it is defined as a physiologically unavoidable dehydration during exposure to heat) did not occur. While voluntary dehydration (inadequate or delayed thirst response) has been observed regularly in other settings, it is probably a function of poor access to water, workplace practices (particularly a lack of self pacing), inadequate education, or insufficient quality or palatability of water, and is neither physiologically nor psychologically inevitable.

Fluid consumption rates (and hence in circumstances where workers' hydration status is not changing, sweat rates) of up to 1.5 liters per hour occur in self-paced acclimatized, industrial workers with typical rates varying between 0.5 and 1.1 liters per hour.

Education is vital if a worker who is exposed to significant levels of thermal stress is to come to work hydrated, and maintain their hydration state during their work shift. Paced fluid
replacement (programmed drinking) rather than responding to thirst sensation is critical to maintaining hydration levels when working under thermal stress.

Standards for occupational heat stress should not assume that workers are unable to avoid dehydration when exposed to heat – that is, involuntary dehydration should not be implicit in heat stress standards.

12. Bricknell, Major MCM (1996). "Heat Illness – A Review of Military Experience (Part 2)," *Journal of the Royal Army Medical Corps*, Vol. 142: 34-42.

This article further reviews international guidance about and experience with heat illness from after World War II through the middle 1990s.

It makes the following noteworthy points:

Hot weather is not the only time heat illness occurs, although hot weather is definitely a contributing factor in heat illness
High levels of physical exertion definitely contribute significantly to heat illness
Clothing that impedes the body's natural cooling mechanisms (such as through adding weight or insulation, or preventing sweat from evaporating) contributes significantly to heat illness
Staying appropriately hydrated significantly reduces heat illness, and restoring appropriate hydration is important in treating heat illness
Hot weather, heavy physical activity, inappropriate clothing, and inadequate hydration can all individually increase a person's risk for heat illness, and when some or all of these factors are combined, the risk for heat illness becomes great.
Instructing people about heat illness, and having a way to monitor heat conditions and people's responses to them, are both key in preventing heat illness.

Another important point this article makes is that the heat illness guidance given to US soldiers is significantly different from the guidance given to Israeli soldiers. This suggests that for a US civilian population it would be more reasonable to use US military guidance, not Israeli guidance, as a basis for avoiding heat illness in a US state.

13. Caravello, V.E. A. McCullough, C. D. Ashley, T.E. Bernard (2008). Apparent Evaporative Resistance at Critical Conditions for Five Clothing Ensembles. European Journal of Applied Physiology," (in press)

A limiting factor for clothing ensembles inherent during heat stress exposures is the evaporative resistance, which can be used to compare candidate ensembles and in rational models of heat exchange. In this study, the apparent total evaporative resistance of five clothing ensembles was estimated empirically from wear trials using a progressive heat stress protocol and from clothing insulation adjustments based on ISO 9920 (2007) and wetness.

Significant differences among ensembles were observed for apparent total evaporative resistance. This wear test method improves on past methods using the progressive protocol to determine evaporative resistance by including the effects of movement, air motion, and wetness on the estimate of clothing insulation.

To varying degrees, clothing affects the level of heat stress that a person experiences. While convection and radiation play a minor role in maintaining thermal equilibrium in hot climates, evaporative resistance is the most important factor with respect to maintaining thermal balance in hot environments.

Static values for these parameters reflect that the clothing is worn without significant air motion and movement. In turn, resultant values adjust for more realistic conditions of air movement and activity of the wearer under specific working conditions. Walking at a brisk pace can nearly halve the insulation of moderately thick clothes because body movements pump air in and out of the clothing. The insulation is further reduced if the clothing becomes wet.

Both the ambient air temperature and vapour [sic] pressure at the critical conditions decrease with clothing ensembles suspected of higher evaporative resistance. Physiological data remain consistent across ensembles.

The progressive heat stress protocol is considered a useful method to estimate the apparent total evaporative resistance, which does not rely on the direct determination of sweat rate.

There were significant increases in evaporative resistance for a specific vapour-permeable [sic] water-barrier coverall (NexGen) and for a vapour-barrier coverall. Under the current test conditions, specifically a progressive heat stress protocol at 50% relative humidity, there appears to be a linear relationship between apparent total evaporative resistance and WBGT clothing adjustment factors also developed from the same protocol. The relationship may break down at different relative humidities when the evaporative resistance is high and this requires further investigation.

This study refines the clothing adjustment factors when looking at heat stress and helps to develop methods for estimating clothing adjustment factors in other ensembles.

14. Cheuvront, Samuel, Robert Carter III, John Castellani, and Michael Sawka (2005). "Hypohydration impairs endurance exercise performance in temperature but not cold air," *Journal of Applied Physiology*, 99: 1972-1976.

Cheuvront et al (2005) determined that dehydration impairs endurance performance in temperate (68 degrees F.) but not cold air (36 degrees F.).

This has clear implications for workers in even moderate temperatures, and leaves no doubt that working in higher-than-moderate temperatures has negative effects on performance, in direct relation to adequate hydration. This study supports the premise that adequate hydration is a key element in maintaining performance levels in hot temperatures

15. Cheuvront, Samuel, Robert Carter III, and Michael Sawka (2003). "Fluid Balance and Endurance Performance," Current Sports Medicine Reports, 2(4):202-208.

Cheuvront et al (2003) from the US Army Research Institute of Environmental Medicine, Thermal and Mountain Medicine Division reviewed the effects of dehydration on endurance exercise performance and developed fluid replacement guidance based on those findings. They defined endurance exercise as "continuous aerobic exercise in excess of 60 minutes duration."

Their literature search documented that aerobic and endurance exercise performance is negatively impacted by dehydration and is independent of how dehydration occurred (i.e. dehydrated before exercise, dehydrated because of exercise, etc). They concluded that "Dehydration by anything over 2% of body weight significantly degrades endurance exercise performance, especially in hot environments."

This dehydration fatigue may also be related to changes in cardiovascular, thermoregulatory, central nervous system, and metabolic functions. They determined that fluid intakes of one liter per hour or less is sufficient to prevent fluid losses greater than 2% of body weight.

16. Clapp, A.J., P.A. Bishop, J.F. Smith, L.K. Lloyd, K.E. Wright (2002). "A Review of Fluid Replacement for Workers in Hot Jobs." ***American Industrial Hygiene Association Journal*****. Vol. 63: 190-198.**

Clapp et al reviewed the fluid replacement literature and concluded that the studies support the use of electrolyte-carbohydrate (ECHO) beverages as a supplement to water or as a replacement for water during prolonged work in hot environments. Repeated bouts of work by industrial workers may make replacement of water and electrolytes more important for workers than for the athlete.

The authors conclude that the "ideal industrial beverage should prevent hypohydration, promote voluntary rehydration, and enhance performance. The interaction of content, palatability, temperature, and rate of work and fluid loss will determine the best beverage."

Their literature also said that "an ECHO beverage containing moderate amounts of carbohydrates (4-8%) and moderate amounts of NaCl (0.06-18%; 0.6-1.8 mg/mL; 10-30 mmol/L) may induce greater consumption, aid proper rehydration, improve work performance, and prolong the onset of fatigue."

The authors point out the importance of remembering individuality in fluid consumption and that some workers prefer water and will consume greater quantities of water. They also acknowledge the following difficulties with providing ECHO beverages: expense, they must be purchased in advance, they may need to be reconstituted, workers may have taste preferences and there are many flavors available, ECHOs provide additional calories that may be harmful or helpful, and the carbohydrates provide food for bacteria so cleanliness is more difficult.

The authors conclude that health and safety professionals need to use their best judgment to weigh all the factors and attempt to optimize safety, performance, and comfort of workers.

<u>Table: Fluid Replacement Guidelines for Heat-Exposed Workers</u>

1) Workers should be careful to consume a well-balanced diet and drink plenty of nonalcoholic beverages on the days preceding severe heat exposure.
2) Workers should avoid diuretics (e.g. caffeine) immediately prior to work and drink as much as a half liter of fluid prior to commencement of work.
3) During activity workers should try to drink as much and as frequently as possible.
4) Workers should be provided cool drinks that appeal to them. Fluids can contain 4-8% carbohydrate and 10-30 mmol/L sodium.
5) Electrolyte- carbohydrate beverages may be especially useful for rehydration between shifts.

6) Workers should be encouraged to rehydrate between work shifts.
7) For workers with repeated daily exposures to very hot environments, body weight should be monitored at the start and end of each shift to ensure that progressive dehydration from day to day in not occurring.
8) Workers, whose drinking may be restricted by working conditions such as the use of respirators, must take special care to maintain hydration levels.
9) Workers exposed to an unusually hot and prolonged task should be rotated to reduce cumulative dehydration both during the shift and between days.

17. Corso, P., E. Finkelstein, T. Miller, I. Fiebelkorn, and E. Zaloshnja (2004). "Incidence and lifetime costs of injuries in the United States," *Injury Prevention*, Vol. 12: 212-218.

This article offers a profile of the frequency and costs of injuries of all types across all ages in the USA, comparing data for the year 2000 with data for 1985.

By examining not only the medical costs of injury but also costs in lost productivity, this article supports the premise that heat illness/injury incurs costs not only in terms of medical treatment and absenteeism but also in terms of the lowered productivity of presenteeism.

18. Craig, F.N. and E.G. Cummings (1966). "Dehydration and muscular work," *Journal of Applied Physiology*, Vol. 21(2): 670-674.

Craig and Cummings (1966) studied volunteers who walked to exhaustion under several different scenarios involving heat stress and dehydration. The study demonstrated that the combination of heat stress and dehydration had a much greater effect on endurance than dehydration alone.

This supports the premise that heat stress compounds dehydration

19. Dowell, Chris H. and Tapp, Loren C. (2007). "Evaluation of Heat Stress at a Glass Bottle Manufacturer: Health Hazard Evaluation Report HETA 2003-0311-3052." Owens, Illinois and Lapel, Indiana.

This report documents an investigation about hot working conditions in the forming area at an Owens glass factory in Indiana.

Portions of the report particularly relevant to the Heat Stress rule are:

- Metabolic heat rate estimation paired with WGBT readings in the Results and Discussion section, which demonstrate what an important factor the level and duration of exertion are in calculating heat stress risk, especially in the presence of increased heat, increased humidity, or both.
- The discussion of acclimatization, what it is, how it happens, the rate at which it happens, and how quickly it can be lost, in the Heat Stress section and the Acclimatization section of Appendix A, Occupational Exposure Limits and Health Effects.
- The discussion of heat stress effects in the Health Effects of Exposure to Hot Environments section, also in Appendix A.

The list of recommendations in the Recommendations section, which closely mirrors the steps and controls the Heat Stress rule calls for (for example, establish criteria for when heat stress procedures are in force, educate workers about signs and symptoms of heat stress and how to stay hydrated, allow unscheduled breaks when needed, and institute a buddy system so workers can monitor each other).

20. Epstein, Y., D. Moran, Y. Shapiro, E. Sohar, and J. Shemer (1999). "Exertional heat stroke: a case series," *Medicine & Science and Sports & Exercise*, Vol. 31(2): 224-228.

This article provides a wealth of information about exertional heat illness occurring in hot weather – the population studied is Israeli soldiers, functioning and training in a hot desert environment.

The following points are noteworthy:

- Soldiers who had heat illness were healthy active young people with no predisposing factors.
- Instances of heat illness still occurred despite official acknowledgement of the hot environment and orders to the soldiers to follow instructions designed to lessen the effects of heat on their bodies.
- Although the most cases happened in the hot months, heat illness also occurred in cooler months as well.
- Lack of acclimation seemed to be a primary factor in exertional heat illness that occurred in the spring.
- Exertional heat illness occurred during the first part of a period of activity about half the time, showing that it is not simply or always brought on my the duration of activity.
- Standing orders limit exercise time during hot periods, and mandate a rehydration rate of about 1 liter per hour during moderate to heavy exertion in hot periods.
- During marches, 10 minutes of rest are mandated for every hour of physical activity.
- Overweight soldiers are at a much higher risk for exertional heat illness, about 5 times the risk of fit soldiers.
- Exertional heat illness is mainly the result of exercise rather than climate.
- Soldiers who exert themselves beyond their capacity through over-motivation are more vulnerable to exertional heat illness

  (Note: The article did not examine whether these soldiers were able to accurately assess their own capacity to begin with, so it can't be determined whether they exceeded their capacities knowingly or unknowingly; this is important because avoiding exertional heat illness depends at least partly on a person being able to accurately assess his or her own capacity first, and then to exercise good judgment in light of that assessment).

- Likelihood of exertional heat illness is higher when people do the following:
  - Fail to match exercise intensity to their level of fitness ("over-do it")

  - Fail to follow guidelines for alternating work and rest periods appropriately
  - Exert themselves when they are sick, such as with a cold, flu, or stomach upset
  - Allow themselves to become dehydrated
- Dehydration was the major cause of exertional heat illness.
- Excerpt: "The collapse of an individual during physical exertion of whatever duration and climatic condition should be recognized as being possible [sic] due to heat stroke, and EHS [Exertional Heat Stroke] should be the working hypothesis until disproved."
- Exertional heat illness is nearly always preventable.
- The measures that prevent exertional heat illness are
  - Acclimation to the environment
  - Matching exertion to fitness
  - Avoiding exertion during the hottest part of the day
  - Proper rehydration
  - Properly pacing periods of work and rest during sustained activities

21. Fan, Z.J., D. Bonauto, M. Foley, and B. Silverstein (2006). "Underreporting of Work-Related Injury or Illness to Workers' Compensation: Individual and Industry Factors," *Journal of Occupational and Environmental Medicine*, Vol. 48(9): 914-922.

Fan *et alia* used data from the 2002 Washington State Behavioral Risk Factor Surveillance System (BRFSS) to study underreporting of Workers' Compensation (WC) claims. They found that 13% of wage-earning respondents reported a work-related injury or illness for 2002 and that only 52% of those with an injury or illness actually filed a WC claim. Those who filed were more likely to be overweight and married.

Several occupation and industry groups reported a higher proportion of work-related injury or illness but lower WC claim filing. By industry, agriculture/forestry/fishing and construction ranked higher in reporting work-related injury or illness and lower in WC claim filing. By occupation, farming/forestry/fishing ranked the highest in reporting work-related injury or illness and second lowest in WC claim filing."

These are all outdoor industries. (Injury/illness type was not mentioned in this report.)

22. Fogleman, M., L. Fakhrzadeh, T.E. Bernard (2005). "The relationship between outdoor thermal conditions and acute injury in an aluminum smelter." *International Journal of Industrial Ergonomics*. Vol. 35: 47-55.

Injury data was evaluated at an aluminum smelter for the years 1997-1999 inclusive to assess the effect of outdoor thermal conditions on the occurrence of acute injury while also considering factors of work location within the smelter and worker's age.

A modified U-shaped relationship between thermal category and the occurrence of acute injuries was seen. There was a higher rate of injuries at the coldest end that came down as temperatures rose and started to increase at higher temperatures. It also appeared that younger workers were more likely to sustain acute injuries although this could be partially explained by younger workers not having seniority and having to do the more physically demanding jobs.

When age and thermal category were controlled for, the association between locations and acute injuries was not significant.

This study helps to show that even in an indoor environment under hot working conditions, the outdoor temperature can affect employees and cause an increase in acute injuries.

23. Garcia-Rubira, JC, J. Aguilar, and D. Romero (1995). "Acute myocardial infarction in a young man after heat exhaustion," *International Journal of Cardiology*, Vol. 47: 297-300.

This article makes a clear point that people as young as 33 can have serious or life-threatening cardiac events as a direct result of heat exhaustion or heat stroke. The authors emphasize the importance of recognizing heat exhaustion or heat stroke early, because heat illness is so clearly associated with damage to heart tissue.

24. Gardner, JW, JA Kark, K Karnei, JS Sanborn, E Gastaldo, P. Burr, CB Wenger (1996). "Risk factors predicting exertional heat illness in male Marine Corps recruits," Medicine & Science in Sports & Exercise, Vol. 28: 939-944.

Exertional heat illness (EHI) has been a substantial problem in military operations and training, and occurs with sustained exertion, especially in a hot, humid environment. EHI includes a spectrum of disorders, including exertional dehydration, heat cramps, heat exhaustion, exertional heat injury, rhabdomyolysis, and heat stroke.

This study looked at male Marine Corps recruits from 1988 through 1992 at the Marine Corps Recruit Depot, Parris Island, SC. During this time period, 528 (6/1000) had clinic visits for EHI with up to 20/1000 for those training during June-August. Cases usually presented with elevated rectal temperature, orthostatic symptoms, and/or neurologic symptoms without other cause.

Risk factors evaluated in relation to EHI included age, race, height, weight, BMI (Body Mass Index), run times (min) for each physical fitness test (PFT), numbers of pull-ups for each PFT and numbers of sit-ups for each PFT.

Age and race are weakly associated with occurrence of EHI. Age has minimal variability in this population, since 90% of the recruits are 17-21 years of age. Shorter height, heavier weight, higher BMI, slower run-times, fewer pull-ups, and fewer sit-ups were all associated with higher risk for EHI.

The risk for developing EHI increases both as BMI increases and as run-time increases.

Both low physical fitness and obesity have been identified as individual risk factors for EHI.

The authors estimated that 23% of recruits had BMI greater than or equal to 26 kg m-2 and these accounted for 172 (44%) of 390 EHI cases. Twenty-three percent of recruits had 1.5 mile PFT run times greater than or equal to 12 minutes, and they accounted for 193 (51%) of 377 cases. However, those at highest risk (odds ratio greater than 8) were defined by both BMI greater than or equal to 22 kg m-2 and run-time greater than or equal to 12 minutes. Eighteen percent of recruits are in this high risk category and account for 47% of the cases.

Obesity has been identified as an important factor in heat intolerance.

It is estimated that death from heat stroke to be over 10 times more likely in those who are greater than or equal to 40 pounds overweight compared to those greater than or equal to 10 pounds underweight. It was found that the risk for developing EHI increased slightly with decreasing height and substantially with increasing

weight, but the anthropometric relationship to EHI risk was stronger and independent of other risk factors when expressed as BMI.

Three potentially interactive factors have been discussed to explain increased susceptibility for EHI in those with high BMI. One factor is higher heat production during exercise, for which energy requirements are proportional to body weight. Another factor is reduced heat dissipation due to lower ratio of surface area to body mass in those with high BMI. A third factor may be a lower mean tissue-specific heat in the obese.

There may be other unidentified metabolic differences in obese individuals. Individuals who are physically fit are at lower risk for developing EHI. Good cardiovascular fitness provides increased cardiac reserve, allowing greatly increased blood flow to the skin and muscles necessary for thermoregulation and exercise.

These analyses demonstrate that male recruits with BMI greater than or equal to 22 kg m-2 and initial 1.5 mile run-time greater than or equal to 12 minutes are eight times more likely to suffer an episode of EHI during basic training than those with lower BMI and faster run-time. Furthermore, these risk factors can be identified during the first week. Less than one-fifth of the recruits are at the highest risk, but they account for nearly half of the cases of EHI.

25. Gonzalez, N.W., T.E. Bernard, N.L. Carroll, M.A. Bryner, J.P. Zeigler (2006). "Maximum sustainable work rate for five protective clothing ensembles with respect to moisture vapor transmission and air permeability." ***Journal of Occupational and Environmental Hygiene*****. Vol. 3: 80-86.**

The fabrics associated with protective clothing affect heat stress, which influences productivity and risks of heat-related disorders. This study compared the work limiting effects of five protective coveralls and a semi-clothed condition (t-shirt and shorts). Two fabric characteristics determined from bench tests, moisture vapor transmission rate and air permeability were also examined as possible predictors of ensemble performance.

The concern is that when engineering and administrative controls are inadequate to protect workers, the use of personal protective clothing can further complicate heat stress management. The rate of radiant heat exchange and convective heat exchange are affected by clothing through insulation qualities. If maximum evaporative cooling cannot meet the required evaporation the body will store heat and core body temperature will rise.

Among the five clothing ensembles looked at in this study, productivity was the least for the ensembles with lower air permeability made of a laminated microporous film and conventional Tyvek. Significantly better performance was observed for higher air permeability ensembles. The tightly woven polyester ensemble was not statistically different from either group.

The roles of moisture vapor transmission rate and air permeability for each fabric were examined as possible predictors of fabric performance. Air permeability appears to be a better predictor of ensemble performance than moisture vapor transmission rate. Participants in garments with higher air permeability were able to sustain higher treadmill speeds and higher metabolic rates than those in clothing with lower air permeability.

This study is significant in helping to understand how clothing affects employees' potential HRI problems. It shows that workers wearing less impermeable clothing heat up more and cannot sustain higher levels of work rates.

This study also showed that the air permeability of clothing could be used to help predict the effect the clothing would have on a worker. The more permeability, the more vapor evaporation and less the core temperature is affected. This helps in showing why there are different temperature action levels for the different types of work clothes.

26. Gopinathan, PM, G. Pichan, and VM Sharma (1988). "Role of Dehydration in Heat Stress Induced Variations in Mental Performance," *Archives of Environmental Health*, Vol. 43(1): 15-17.

Variation in mental performance under different levels of heat stress-induced dehydration was recorded in 11 subjects heat acclimatized to the tropics. The results of this study indicated significant deterioration in mental functions at 2% or more body dehydration levels.

The upper thermal limit for unimpaired mental performance varies systematically with exposure duration. Also, the lowest temperature yielding statistically reliable decrements in mental performance declines exponentially as exposure duration is increased.

From the experiments, it can be seen that 2% dehydration is the critical level where the deterioration is highly significant. With further dehydration, performance decreased markedly.

The impairment recorded in mental performance is proportional to the degree of dehydration and is highly significant at 2% dehydration for all the functions, i.e., short-term memory, arithmetic efficiency, and visumotor tracking involving motor speed and attention.

Mental performance impairment in men exposed to high ambient temperature reported previously has been attributed to the stressor effect of heat and dehydration. The deleterious effects might result from voluntary dehydration during heat exposure due to inadequate water intake.

This study shows how important it is for employees to stay hydrated during the day. Once a 2% dehydration is reached, the person's ability to work is decreased.

27. Heled, Y., M. Rav-Acha, Y. Shani, Y. Epstein, and D. Moran (2004). "The 'Golden Hour' for Heatstroke Treatment," *Military Medicine*, Vol. 169(3): 184-186.

The article reviews 4 cases of exertional heatstroke in "young, healthy, physically fit subjects." These cases were similar in that each subject suffered only a few hours of exposure to heat. In 2 cases, the subjects were rapidly cooled shortly after collapse with available tap water. In the other 2 cases, cooling was delayed for more than 3 hours. In the later cases, both subjects died as a result of the heatstroke.

The article concludes that there is "a limited 'window time period' within which effective cooling can influence prognosis." While the authors do not present a specific timeframe, the article references the reviewed cases and contrasts the favorable prognosis of the 2 cases that were "rapidly cooled soon after the collapse" with the death of the other 2 cases that did not receive efficient cooling for more than 3 hours.

28. Judelson, D.A., C.M. Maresh, M.J. Farrell, L.M. Yamamoto, L.E. Armstrong, W.J. Kraemer, J.S. Volek, B.A. Spiering, D.J. Casa, J.M. Anderson (2007). "Effect of Hydration State on Strength, Power, and Resistance Exercise Performance." *Medicine & Science in Sports & Exercise*. Vol. 39: 1817 -1824.

This study tested seven young males at three different levels of hydration to see what effect hydration alone had on their performances. While their performance for activities that required only single episodes of exertion (such as jumping) was not adversely affected, their performance for repetitive resistance sessions was significantly degraded.

Although workers may not be routinely performing the exact activities tested in this study, it is likely that they will routinely perform similar activities. For example, roofing and framing work involve repetitive resistance activities. The decrease in performance for these types of activities that resulted from dehydration alone supports the premise that hydration alone is a significant factor in workers being able to sustain repetitive work activities.

29. Kark, JA, TJ Larkin, DP Hetzel, MA Jarmulowicz, KM Lindgren, T Park, JW Gardner (1997). "Exertional heat illness contributing to sudden cardiac death," *Circulation*, Vol. 96(8): Suppl (1), 476.

In this study of 269,124 recruits at Marine basic training in Paris, SC, researchers looked at how often serious or fatal sudden cardiac events (heart attacks) happened when recruits were or were not also experiencing exertional heat illness (EHI).

Of 137 recruits who experienced exertional heat illness, 7 also experienced heart attacks. Among those 7 recruits who experienced heart attacks, all the attacks were unexplained by any previously existing conditions, and 2 died from their heart attacks.

In comparison, of the 267,468 recruits who did not experience EHI, there were only 4 recruits who had heart attacks, although all 4 died of them.

In the words of the study, "The relative risk of threatened or actual sudden cardiac death was 3,400-fold for exertional heat stroke versus without EHI…" This means that in this study of 269,124 recruits, those with exertional heat illness were 3,400 times more likely to have a heart attack than those who did not have exertional heat illness.

Researchers therefore urge that exertional heat illness be considered by those who resuscitate previously healthy young adults having exercise-related heart attacks, and in diagnosing fatal exercise-related heart attacks that happen to previously healthy young adults.

30. Kenefick, Robert and Michael Sawka (2007). "Hydration at the Work Site," *Journal of the American College of Nutrition*, Vol. 26(5): 597S-603S.

Kenefick and Sawka (2007) reviewed the literature in order to discuss factors related to worker hydration and offer recommendations for fluid consumption before, during, and after work.

Like athletes, workers are often challenged by hydrations issues but this issue is often overlooked. Worker dehydration can affect productivity, safety, cost, and morale.

The Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH) have issued recommendations of workers drinking one cup of water every 20 minutes for work in warm environments; however, the authors state that there is "vague guidance and none take into account the effects of work intensity, specific environments, or protective clothing."

Improved occupational guidelines for fluid and electrolyte replacement during hot weather occupational activities should be developed to include recommendations for fluid consumption before, during, and after work.

They concluded that "Despite specific challenges, improving hydration in the workplace should increase productivity, decrease accidents, and boost employee morale."

Kenefick and Sawka (2007) made several conclusions based on the literature. These include:

- Total body water approximates ~ 60% of body mass and normally varies by plus/minus 3%.
- Maintaining normal body water (euhydration) is important, as deficits >2% of body mass can adversely impact on aerobic performance, orthostatic tolerance and cognitive function.
- Studies of occupational accidents report the lowest rates in cold months and highest rates in hot months when sweat losses would be greatest.
- Physical activity level/duration, clothing/equipment and weather are important in determining fluid needs. Work places that are either in warm environments, involve high level of physical activity, or both will require greater fluid replacement.
- Measures of body weight and urine color are used in combination with the subjective sense of thirst, can help to provide an assessment of hydration state.

- Fluid replacement guidelines should take into account work intensity, environment and work-to-rest cycles.
- Lean body mass contains ~ 73% water and fat body mass consists of ~10% water. Therefore, obese individuals with the same body weight as their lean counterparts will have markedly smaller total body water volumes; therefore absolute fluid deficit will have more severe consequences for the latter.
- It may take several hours of rehydration and electrolyte consumption to reestablish water balance in individuals with severe body water losses like those associated with physical work or heat stress. (Ex. >4% total body weight loss may take 24 hours or more to replenish.)
- Sweat rates may differ between individuals and between activities.
- …..in simulated industrial work conditions, encapsulated protective clothing increased sweat rates up to 2.25 L/hour. Likewise, wearing protective equipment such as full or half face masks can make fluid consumption more difficult and can further contribute to dehydration in the workplace."
- Firefighters wearing protective equipment and clothing may have sweat rates up to 2.1L/hour.
- Regular meals are influential in helping people to consume adequate water and stimulate the thirst response.
- Access to bathroom facilities is important in encouraging people (especially women) to drink more.

31. Kerstein, M., D. Wright, J. Connelly, and R. Hubbard (1986). "Heat Illness in Hot/Humid, Environment," *Military Medicine*, Vol. 151: 308-311.

This article makes several important points about heat illness:

- Heat illness in a military setting is seriously under-reported, with as many as 10 unreported cases suspected for every reported case.
- Fitness and acclimatization are key factors that affect whether a person gets heat illness; unfit people who are not acclimated to heat are at a significantly higher risk for heat illness.
- Simple intervention works: Using a Botsball to measure the heat and humidity index then following guidelines about how to alter activity and water consumption based on the Botsball reading significantly reduced (functionally cut in half) the number of reported instances of heat illness.
- The two factors of education and hydration can significantly reduce the instance of heat illness in other populations as well as the military, such as vacationers and industrial workers.

32. Kovats, RS, S Hajat, and P Wilkinson (2004). "Contrasting patterns of mortality and hospital admissions during hot weather and heat waves in Greater London, UK," *Occupational and Environmental Medicine*, Vol. 61: 893-898.

This article approaches the question of why hospital admissions did not increase significantly during a heat wave in London, UK, even though mortality from heat illness did.

The authors offer as a possible (though not proven) explanation that people who are most at risk for heat illness die from it before their state of illness becomes known to a medical professional. This could be accounted for by failures to recognize the signs and symptoms of heat illness in themselves or by family members or friends, the heat illness coming on suddenly enough to limit the time and ability to seek help, the people suffering from heat illness being isolated so that help or medical treatment is not available, or a combination of the three.

This study highlights the importance of several issues in heat illness:

- People have to know and look for the early signs and symptoms of heat illness, not just the advanced signs and symptoms, if they are to seek cooling or medical treatment in time to save organs from serious damage, or to save themselves or someone else from dying.
- The effects of heat illness can come on or get seriously worse in a short space of time, which makes vigilant watching for early signs and symptoms essential.

Experiencing heat illness while in an isolated location can increase the likelihood of dying of heat illness.

33. Montain, Scott, William Latzka, and Michael Sawka (1999). "Fluid Replacement Recommendations for Training in Hot Weather," *Military Medicine*, Vol. 164(7): 502-508.

The authors of this study were responding to increased instances of water intoxication while training in the US military, when soldiers followed the recommended rates for rehydration at various levels of exertion during hot-weather training. The result of the study was to lower the recommended drinking rates for all levels of exertion in hot weather.

This study is useful for heat illness because the physical demands on soldiers at various levels of exertion in hot weather are likely to be similar to demands placed on people working outdoors in hot weather, such as framers and roofers. This similarity makes it reasonable to use the Army's recommended rehydration rates as a basis for recommendations for civilians working at similar levels of exertion in hot weather.

34. Morabito, Marco, Lorenzo Cecchi, Alfonso Crisci, Pietro Amedeo Modesti, and Simone Olandini (2006). "Relationship between Work-Related Accidents and Hot Weather Conditions in Tuscany (Central Italy)," *Industrial Health,* Vol. 44: 458-464.

Morabito et al found that hot weather conditions may represent a risk factor for work-related accidents. Conditions were studied for Central Italy between 1998 and 2003. Heat was not tolerated as well and accidents were more frequent in June than any other summer month (June-September). This supports the inclusion of acclimatization in the proposed rule.

Statistical analysis revealed that the maximum number of work accidents occurred each month on days with a mean daytime temperature of 77-83 degrees Fahrenheit and maximum temperature of 84-89 degrees Fahrenheit. Fewer accidents occurred on days with temperatures above 89 degrees. The authors explained this result by the fact that people may "change their behaviour (sic) when heat stress increases (reaching extreme values for human health), reducing risks by adopting preventive measures, i.e. working in the shade, drinking more water, beginning working activity earlier in the morning, and so on."

The authors concluded that these same preventive measures should be considered for days with a mean daytime temperature of 77-83 degrees Fahrenheit and maximum temperature of 84-89 degrees Fahrenheit.

35. Morimoto, T. (1990). "Thermoregulation and body fluids: role of blood volume and central venous pressure," *Japanese Journal of Physiology*, Vol. 40(2): 165-179.

Morimoto (1990) reviewed the effects of dehydration due to hyperthermia and concluded that dehydration due to hyperthermia produces both hyperosmolality and hypovolemia. Hyperosmolality reduces evaporative cooling and alters the body's thermoregulatory response (body temperature increases). Hypovolemia also alters the body's thermoregulatory response.

36. Nielson, B., JR Hales, S. Strange, NJ Christensen, J. Warberg, B. Saltin (1993). "Human circulatory and thermoregulatory adaptations with heat acclimation and exercise in a hot, dry environment," *Journal of Physiology*, Vol. 40: 165-179.

Nielson et al (1993) studied endurance trained subjects during 9-12 days of acclimation to dry heat and concluded that high core temperature and not circulatory failure is the critical factor for exhaustion during exercise in heat stress.

37. Moskowitz, H., MN Burns, AF Williams (1985). "Skills Performance at Low Blood-Alcohol Levels," *Journal of Studies on Alcohol*, Vol. 46(6): 482-485.

This article documents a 1984 study that confirms performance is impaired even with low blood alcohol levels, in young men accustomed to moderate drinking. The study was undertaken to examine the assertion that low blood alcohol levels improve performance.

The study took place in southern California and involved 10 men aged 21 through 35 who were recruited through state and college employment offices. Their performance at divided-attention tasks and with background masking tasks (conversion of visual stimulus to memory) was tested at blood alcohol levels of zero, 15, 30, 45, and 60 mg/dl.

This information is relevant to heat illness as a basis for comparing performance impairment resulting from heat illness.

38. Nayha, S. (2005). "Environmental Temperature and Mortality," *International Journal of Circumpolar Health*, Vol. 64: 451-8.

Mortality is lowest at mean daily temperature of +14°C, and it increases slowly with falling temperature and steeply with increasing temperature. The number of people dying from high temperatures (over +14°C) in Finland in a normal year is 100-200. Heat deaths are mostly certified as being due to cardiovascular or respiratory conditions. Both cold and heat are significant public health hazards which should be taken into account in health care and education of health professionals.

Time series studies performed since the 1970's have shown that warm weather, not only heat waves, increase mortality from most major causes.

In hot weather, the heat balance of the body is sustained by enlarging skin vessels and increased sweating which in turn increases the cardiac work and loss of fluid and salt. This leads to haemoconcentration, increased blood viscosity and the risk of thrombosis. In people with congestive heart failure, the extra heat load may lead to fatal consequences.

The association of air temperature and mortality is U-shaped. On the colder side of the optimal temperature, mortality increases slowly with declining temperatures, and on the warmer side it increases steeply with rising temperatures.

Especially in cold regions, the effect of heat on mortality begins at relatively low temperatures and the effect on increasing mortality is greater than in warm areas.

The number of deaths caused by heat waves in Finland is significant. During the heat wave of 1972, for example, an estimated 800 people died as a consequence of heat. The extra deaths are certified as being due to most major causes, such as coronary heart disease, cerebral vascular accidents and respiratory diseases.

Although this study is for a general population, it demonstrates how hot weather increases risks for people which include employees. It is interesting that there is a U-shaped curve in this study as was seen in the ambient temperature and the aluminum plant study.

39. NIOSH Research Report, Mortality of Steelworkers Employed in Hot Jobs, U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health

This study investigated steel worker heat stress and cause-specific mortality patterns.

Steel worker jobs that had exposure to heat stress were identified and tracked during this study. The steel workers were tacked for environmental and metabolic heat load. The data was then utilized to form different categories of heat stress. Mortality patterns of steelworkers in the survey jobs were studied and included more than 59,000 steel workers. The control population included workers who never worked in areas that were surveyed for heat stress.

The study found that there was an actual decrease in the deaths caused by cardiovascular disease among steal workers who were exposed to high levels of heat stress in their job. It was also found that steel workers who are unable to physically handle the conditions leave the job after varying lengths of exposure, which resulted in fewer deaths the longer people held their job.

The study found that there was a higher risk of cardiovascular disease for steel workers with less than 6 months of exposure. This indicated that steel workers new to their job had a higher risk of suffering heat stress. This could have been related to the workers inability to work the job under heat stress conditions combined with the workers health. Deaths among steel workers where heat stress was a contributing factor decreased as the worker’s experience on the job increased.

The study also found more workers died from nonmalignant digestive disease who worked in high heat stress environments. The study found that steel workers longevity implied a favorable pattern of survival in heat stress environments.

40. G.C. Pitts, R.E. Johnson and F.C. Consolazio with the technical assistance of J. Poulin, A. Razoyk and J. Stachelek, Work in the Heat as Affected by Intake of Water and Salt Glucose, The Fatigue Laboratory, Harvard University, Boston, Massachusetts, June 10, 1944

This paper studied the affects of water, salt and glucose on heat stress. They tested six healthy young men under hot dry and hot moist conditions. The men were asked to march anywhere from one to six hours with ten minutes rest each hour. Periodic measurements were done throughout the testing.

The study found that test subjects who forced themselves to drink water at the same rate they lost sweat felt well enough to tell testers they could march all day under the same conditions. The authors said that normal workers typically do not drink as much water as they sweat out during their work period. During the testing the temperature and pulse rate rose when water was withheld. The level of sweat also declines if water is withheld during exercise.

The longer the test subjects went without water during their exercise, the worse their symptoms became until they were not able to continue because of dehydration, no matter how tough or acclimatized the subject might have been. The use of water combats all of the symptoms of heat stress in both moist and dry heat environments, the test found.

It also found that evaporation of sweat was the chief source of cooling for test subjects under all conditions, including humid conditions. In most experiments where they withheld water form subjects, they could not continue marching for more the two hours. The report found that for young men to function at a high level in the heat they must replace their water lost to sweat hour by hour. An amount that is considerably less than what they sweat will lead to exhaustion.

Attempting to use salt hour by hour in heat stress environments did not help the test subjects in comparison to water. Administration of glucose was of little help also. The study said that the use of salt may only help in circumstances where transportation of water or lack of water was a problem, but salt is not a better tool than water to control heat stress.

41. Jerry D. Ramsy, Charles L. Burford, Mohamed Youssef Beshir, and Roger C. Jensen, Effects of Workplace Thermal Conditions On Safe Work Behavior, Journal of Safety Research, Vol. 14, pp. 105-114, 1983.

The study investigated the effects of workplace heat on the safe work behavior. Heat exposure measurements and behavioral observations were completed over 14 months for a total of 17,000 observations. The study found that temperatures below and above those typically preferred by most people have a negative effect on the safety-related behavior of workers.

The study found the minimum unsafe behavior index occurred within the zone of preferred from 17 degrees Celsius to 23 degrees Celsius. Some investigators tried to prove a relationship between workplace heat and worker safety using injury experience. These studies were not able to account for all variables but they did provide support that the relationship between injury rates and air temperature is a U-shaped curve when charted out.

This study looked at work tasks inside of two industrial plants including a metal manufacturing plant and a foundry. They studied a wide variety of jobs and work stations inside of both plants. They made a total of 17,841 observations with a total of 16,107 of those workplace activities reported as safe and 1,734 as unsafe. Safe work behavior was observed 90 percent of the time while 10 percent of the behaviors were viewed as unsafe.

The study concluded that ambient temperature has a significant effect on unsafe behavior. Lower than the comfortable zone of 17 degrees Celsius caused unsafe behavior to rise, while unsafe behaviors also became more apparent when temperatures rose above 23 degrees Celsius. This forms the basis of the U-shaped curve when charting unsafe behaviors relative to temperature.

The study concluded that the heat in the work environment resulted in the same results found in laboratory studies of the relationship between temperature and human performance.

42. Rosenman, K. J. Gardiner, J. Wang, et al. (2000). "Why most workers with occupational repetitive trauma do not file for workers' compensation," *Journal of Occupational and Environmental Medicine*, Vol. 42: 25-34.

The article studied the reasons why individuals with Occupational Illnesses may not file a Workers' Compensation (WC) despite the availability of Industrial Insurance coverage. The study reviewed cases in which 1598 individuals diagnosed with neck, upper extremity and lower back work-related musculoskeletal disease between April and June 1996 did not file a claims for WC benefits.

The study determined that factors significantly associated with whether an individual filed a WC claim were:

a. Increased length of employment;
b. Lower annual income;
c. Workers' dissatisfaction with coworkers;
d. Physician restrictions on activity;
e. Type of physician providing treatment;
f. Number of days off work;
g. Decreased current health status; and
h. Increased severity of illness.

The study established that only 25% of workers with a work-related musculoskeletal condition filed a WC claim and refuted the common perception that an individual with a work-related problem is likely to file a WC claim. The strongest predictors of who would file were those factors associated with the severity of the condition. Other factors were increasing length of employment, lower annual income, and worker dissatisfaction with coworkers.

Workers gave the following reasons for not filing a WC claim:

- The injury was not serious enough;
- They did not expect to miss work;
- Workers that did expect to miss work reported they would receive sick-leave or short-term disability from their employer;
- Other medical insurance would cover the medical expenses;
- The worker did not believe their injury was work-related.

The study provides some insight generally regarding reasons a worker may not file a WC claim and, therefore, can be generally applied to indicate why heat-related illnesses may be under-reported. Workers who are unfamiliar with the signs and symptoms of heat-related illness may not recognize the illness and, therefore, may be more likely to attribute the illness to other non-work-related issues (therefore they are likely to not fell their symptoms are work-related). This is, therefore, likely to result in under-reporting. Further, workers who experience less serious forms of heat-related illness are not likely to feel the issues are significant enough to either seek medical treatment or file a claim.

43. Rubel, L.R. and K.G. Ishak (1983). "The liver in fatal exertional heat stroke," *Liver*, Vol. 3(4): 249-260.

Heatstroke victims who survive longer than 1 day often develop jaundice and other manifestations of liver disease. While the liver is extremely sensitive to thermal injury, other factors such as shock, congestive heart failure, hypoxemia, and coagulopathy frequently accompany heatstroke and most likely contribute to the clinical and histopathalogic spectrum of the disease.

Fifty men who died as a result of heatstroke during military training were studied.

More than 73% of those patients who lived less than 12 hours following hospitalization were obese, suggesting that obese persons who develop heatstroke are at risk for shortened survival. Obesity does not, of course, preclude survival, but does appear to shorten survival in fatal cases.

The pathogenesis of both the early and subsequent hepatocellular alterations observed may be complex.

Hematopoietic cell circulate in the peripheral and sinusoidal blood of heatstroke patients. These cells may also be seen in congestive heart failure, a common complication in heatstroke. Reticulocytosis may take place near the onset of heatstroke and reach significant levels. Megakaryocytes, usually in the lungs, may be identified in autopsied patients; there appears to be a high degree of correlation between this finding and diseases associated with intravascular coagulation. Heatstroke is one such disease.

44. Shirreffs, Susan (2005). "The Importance of Good Hydration for Work and Exercise Performance," *Nutrition Reviews*, Vol. 63(6): S14-S21.

Shirreffs (2005) reviewed the literature on the influence of whole-body hydration on exercise performance and concluded that "when exercising in a hot environment (an environmental temperature of 30 degrees C. or more), dehydration by 2% of body mass impairs exercise performance and increases the possibility of heat injury." (30 degrees C = 86 degrees F.)

45. Shlomo Shibolet, Malcolm C. Lancaster, and Yeuda Danon, Heat Stroke: A Review, Heller Institute of Clinical Research, Tel-Hashomer and Igilov Municipal Hospital, Tel Aviv, Israel and Clinical Sciences Division. Aviation, Space and Environmental Medicine, March 1976.

The authors of this paper studied current heat stress literature of the 1970s to gain a better understanding of heat stress and its affects on the population. The results of their research and review of 270 publications were published in 1976.The authors found that working hard in hot environments has caused heat stress to develop in crews on oil tankers in the Persian Gulf and in miners working in South Africa.

The authors also found reports of heat stress in Danish cyclists at the 1960 Olympic Games in Rome. Other cases turned up in the Tour de France in 1959 and in football players and even runners in marathon races. The military regularly deals with heat stress cases, the report found.

This study found that there has been difficulty in identifying what exactly is “too high” of a body temperature. It is difficult to measure the body temperature of internal organs and standard thermometers have difficulty recording the high temperatures in heat stroke victims. But the authors found that most heat stress victims begin to show signs of difficulty at a temperature of 42 degrees Celsius.

This report found that the effects of heat stress were impacted by the amount of time between the onset of symptoms and when cooling began. Cooling devices placed in South African mines allowed heat stroke victims quicker access to cooling, increasing their likely hood of survival.

This study also found that temperatures for heat stroke can be reached through exercise and passively by gaining heat from a hot work environment. The study also found the rate of temperature change in heat stroke victims can be a factor in their survival. Most victims of heat stroke show sudden signs with some showing only some weakness, confusion and irrational behavior before losing consciousness.

This report found that heat stroke frequently strikes highly motivated young workers, those in military training and people playing sports. Under other circumstances these people might take breaks or rest when under the same stress but the nature of their work keeps them engaged in the activity leading to heat stroke.

The prevention of heat stroke requires adequate rest and hydration before physical work, the report found. Rest periods for cooling and drinking of water were also beneficial. The report found that these same precautions were needed in temperate areas during the hot summer months. Taking precautions to offer water and cooling areas led to a reduction in fatalities in the mining industry.

The report also found evidence of heat stroke in groups in which the recognition of the signs of heat stroke in the first victims in a group was very important to their chances of survival. It was found that fainting was a common sign of heat stroke in groups. The authors found that light heat-stroke cases were seldom reported.

This report found that regulations relating to heat stroke that require instant reporting, such as in the military or mining industry, often obscure the real incidence of heat-stroke cases because victims fear less lucrative positions of work. This could be a cause of underreporting of heat stroke, the report said.

46. Smith, JE (2005). "Cooling methods used in the treatment of exertional heat illness," *British Journal of Sports Medicine*, Vol. 39: 503-507.

A total of 17 papers were included in the analysis reviewing the different methods of reducing body core temperature in patients with exertional heatstroke.

The emphasis is placed on reduction of core temperature as quickly as possible, as it has been suggested that the major determinant of outcome in heatstroke is the duration of hyperthermia.

According to the best evidence currently available, it would appear that immersion in iced water is the most effective method of whole body cooling, and should be used where possible.

If immersion is unavailable or inappropriate, cooling may necessarily involve a combination of evaporative cooling techniques and other methods such as immersion of the extremities in cold water.

There is no clear evidence to support the use of dantrolene in the treatment of exertional heatstroke, and the priority, after an assessment of airway, breathing, and circulation, should be to institute external cooling methods to reduce core temperature as quickly as possible.

47. Stonehill, Robert and Philip Keil (1961). "Successful Preventive Medical Measures Against Heat Illness at Lackland Air Force Base," *American Journal of Public Health*, Vol. 51: 586- 590.

In the summer of 1956, the Medical Department at this base became acutely aware of the heat illness problem when 13 heat stroke cases and two deaths occurred. Thirty-nine heat strokes with no deaths occurred during the summer of 1957 in spite of a Preventive Medical Program. A more vigorous program was instituted during the summer of 1958 which effectively emphasized their prevention.

When an individual is initially exposed to a significantly increased heat load he is more prone to suffer heat illness because he has not had time for the physiologic adjustments to the added environmental stress.

Individuals who are obese or debilitated are more prone to heat illness.

Periodic interruption of the excessive heat load will allow more individuals to function for longer over-all periods under heat stress.

Education of the training instructors and troops acquainted them with the types and characteristics of the heat illness and their prevention.

Washed, non-starched, fatigue uniforms were utilized to aid in increasing clothing ventilation. Overweight individuals were given special scrutiny and advice. Adequate water and supplementary salt intake were made available to the troops.

In addition, arduous physical exertion was scheduled in the cooler parts of the day and outdoor training was discontinued when the dry bulb temperature reached 95°F. In spite of these provisions, 39 cases of heat stroke occurred in 1957. The lack of mortality can be attributed to the rapid recognition of the syndrome and immediate, intensive action taken.

48. Sullivan, Sean (2004). "Making the Business Case for Health and Productivity Management," *Journal of Occupational and Environmental Medicine,* Vol. 46(6 suppl): 36 37 S56 -S61.

This article supports the assertion that health affects productivity in other ways than through simple absenteeism and disability. It asserts that research methods and tools exist to assess "dollar denominated presenteeism" and that dollar denominated presenteeism can be shown to cost a business many times more than actual medical care. It also examines how employers can be brought to value and implement Health and Productivity Management (HPM) in their own businesses.

This article is relevant for heat stress because it confirms that "presenteeism" (the loss in productivity that happens when employees are still at work but are working below their normal capacity because of contagious illness, injury, or conditions like heat-related illness) is a source of enormous productivity loss that, when 'dollar denominated,' costs employers more than medical care benefits.

49. Wallace, Robert, David Kriebel, Laura Punnett, David Wegman, and Paul Amoroso (2007). "Prior heat illness hospitalization and risk of early death," *Environmental Research*, 104: 290-295.

This article examines whether having an episode of heat illness serious enough for hospitalization makes a person more susceptible later to additional episodes of heat illness, and concludes that it does. It points out that it is not known whether this increase in susceptibility is permanent.

These authors also point out that severe heat illness, or heat stroke, can cause permanent irreversible damage to the heart, lungs, kidneys, and liver. There was a strong association between heat illness and later fatal cardiac events.

Excerpt: "This study demonstrated that both men and women who were hospitalized for heat illness while in the Army experienced approximately a 40% increased risk of all-cause mortality compared to a reference group of soldiers who had been hospitalized for appendicitis. When analyses were restricted to deaths from causes plausibly related to organ damage following heat illness, the association was strengthened."

The article also asserts that rapid cooling of a person experiencing heat stroke can reduce the damage to organs and so reduce the later risk of illness or death related to organ damage sustained during heat illness.

50. Wasterlund, DS, J. Chaseling, and L. Burstrom (2004). "The effect of fluid consumption on forest workers' performance strategy," *Applied Ergonomics*, Vol. 35: 29-36.

Wasterlund et al (2004) studied four Zimbabwean forest workers for eight days to assess their performance strategy under different conditions and when given different amounts of fluid. All four harvested the larger trees at the beginning of the day and smaller trees toward the end of the day. All workers took longer to perform these tasks when given lower fluid levels. Heart rate as well as work methods varied among workers when they were given insufficient water.

The authors conclude that sufficient water supply should be accompanied by training to communicate the importance and benefits of sufficient fluid consumption.

51. Waters, TA (2001). "Heat Illness: tips for recognition and treatment," *Cleveland Clinic Journal of Medicine*, Vol. 68: 685-687.

This article makes the distinction between heat exhaustion and heat stroke, and points out that the populations most susceptible to heat illness are the very young and very old, the obese, those with hyperthyroidism, and those taking certain (legal and illegal) drugs.

Most relevant for the heat stress rule, the article emphasizes that the sooner the body is cooled, the less chance there is for permanent organ damage. This shows the importance of educating people about early signs and symptoms because it must be recognized before any cooling or other treatment can begin.

52. Wild P., JJ Moulin, FX Ley, and P. Schaffer (1995). "Mortality from cardiovascular diseases among potash miners exposed to heat," *Epidemiology*, Vol. 6: 243-247.

French potash miners are exposed to very hot temperatures and therefore are a suitable population in which to evaluate the chronic effects of heat exposure.

Underground workers had greater mortality from ischemic heart disease (IHD) and lung cancer than daylight workers (aboveground).

Despite the fact that mortality from cardiovascular diseases is similar to that expected from local rates, the main findings are tentative evidence that underground workers are at an increased risk of IHD.

Perhaps heat-exposed subjects leave employment because of IHD more often than nonexposed subjects. The authors note that excess IHD mortality is concentrated in the category with less than 20 years of exposure. This finding is consistent with underground workers whose health status becomes incompatible with underground work being moved to daylight work.

IV. Economic Analyses

HEAT-RELATED ILLNESS
SMALL BUSINESS ECONOMIC IMPACT STATEMENT (SBEIS)

WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES
JANUARY 14, 2008

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The Division of Occupational Safety and Health (DOSH) of the Washington State Department of Labor & Industries (L&I) is proposing a new rule under chapter 296-62-095 of the Washington Administrative Code (WAC) section that will govern Heat-Related Illness in the Outdoor Environment. The overarching scope and purpose of the proposed rule is set forth in WAC 296-62-09510, which reads as follows:

The provisions of this rule apply to all employers with one or more employees performing work in an outdoor environment. It requires employers to implement workplace practices designed to reduce to the extent feasible the risks of heat-related illness resulting from outdoor exposure to temperature, humidity, and other environmental factors, or any combination thereof.

The following Small Business Economic Impact Statement (SBEIS) was prepared in compliance with the Regulatory Fairness Act (RFA), RCW 19.85.040, and provides an analysis of the likely cost per full-time equivalent (FTE) for small businesses compared to large businesses associated with implementation of WAC 296-62-095. In particular, the following rule provisions were analyzed:

- WAC 296-62-09530, Employer responsibility
- WAC 296-62-09540, Drinking water
- WAC 296-62-09550, Responding to signs and symptoms of heat-related illness
- WAC 296-62-09560, Information and training

1. ASSESSING COSTS

1.1. COST SURVEY METHODOLOGY

As part of both the cost-benefit analysis and the Small Business Economic Impact Statement (SBEIS), L&I estimated the probable costs of compliance for Washington businesses if the draft proposed heat-related illness permanent rule were adopted. Primarily, the assessment of quantifiable costs occurred in three steps discussed below: (1) developing and implementing a sampling strategy, (2) designing and sending out a cost survey to employers, and (3) estimating the monetized costs for the various components of the draft proposed rule that may have an economic impact.

1.2. SAMPLING PLAN

The development of the sampling strategy for the Heat-Related Illness cost survey required an unusual amount of care due to the nature of the injuries and illnesses the rule seeks to prevent. That is, while it might seem appropriate to sample those industries known to have the highest number of heat-related illness Workers' Compensation claims[38], heat-related illness may be an underlying cause for primary diagnoses related to accidents. In other words, these accident-related injuries may really be a function of heat-related illness symptoms workers were experiencing prior to the accident (such as dizziness, or orthostatic intolerance, Kenefick and Sawka, 2007) (see State of Washington Office of the Governor, 2007). For instance, in their study of heat-related illness among workers in Italy, Morabito and colleagues (2006) note that "some occupational injuries might be induced by a previous lipothymia or loss of consciousness due to environmental factors, but discharge data only contains the ICD classification of traumatism in the principal diagnoses."[39] While more suggestive than conclusive, the authors also found that, in each of the study months, the greatest number of reported work-related accidents happened on days when the daytime apparent temperature was between 76.6 and 81.5 degrees Fahrenheit (Morabito, et al., 2006). This is consistent with Ramsey, et al.'s (1983) findings that unsafe work behavior increases in warmer temperatures. The authors also report findings from previous studies suggesting a relationship between environmental temperature and injury rates, whereby injuries are more common at both colder and warmer temperatures (that is, the relationship between the two variables is that of a U-shaped curve).

In addition, L&I assumes that exposure to heat-related illness hazards may be slightly more evenly distributed across industries and businesses employing outdoor employees than the Workers' Compensation claims rates by industry would suggest. For one thing, the heat-related illness claims reported by Bonauto and colleagues (2006) and broken out by industry were representative of *both* outdoor and indoor workers (though 78.5% were outdoor workers). In addition, L&I chose to develop a sampling strategy that accounts for the possibility that certain industries may actually have outdoor employees exposed to heat-related illness hazards in greater numbers than their claims rates would suggest. This could happen, for example, in industries where HRI is more likely to be the first and perhaps undiagnosed of what are really two workplace injuries or illnesses (e.g., in industries where HRI may be more likely to result in a workplace accident). Another example of when one might expect true *exposure* rates to be concealed by an examination of *claims* rates is when particular industries have already been taking steps all along to prevent heat-related illness such that exposure is actually greater than their HRI claims rates would suggest. This is all to say that the sampling frame was developed based on the industries in which workers were thought to be exposed to HRI hazards rather than on Workers' Compensation claims data.

Another consideration was the side of the state in which employers were located. This was important given that a disproportionate share of heat-related illness claims occur in Eastern Washington. That is, while Eastern Washington represents only 22 percent of the employed population, it represents 47 percent of HRI claims (Bonauto, et al., 2006). However, this factor was ultimately not considered in the development of the sampling frame, because employees in Western Washington are in some ways at more risk even though they may face less overall exposure to HRI hazards. For example, a recent HRI fatality occurred in Western Washington in the city of

[38] See Table IIb on p. 6 of Bonauto, et al. (2007) for a list of HRI claims in Washington State from 1995-2005 broken out by industry sector at the 6-digit NAICS level.
[39] Note that ICD refers to the International Classification of Diseases published by the World Health Organization.

Vancouver, which has relatively more variation in temperature during the summer months. This temperature variation subjects employees in Western Washington to *greater* risk in some sense, in that they are less likely to be acclimatized to the heat, a factor that is known to predispose individuals to HRI (Bonauto, et al., 2007; Bonauto, et al., 2006; Morabito, et al., 2006; Epstein, et al., 1999; Bricknell, 1996; Gardner, et al., 1996).

The sampling strategy involved the following three steps, each of which will be reviewed in more detail below: (1) determining the appropriate sample size, (2) building the appropriate sampling frame based on likely exposure of outdoor employees to HRI hazards, and (3) using proportionate stratified random sampling to select the number of businesses within each industry sector that would be randomly selected.

1.3. SAMPLE SIZE

In determining the appropriate sample size needed to get valid estimates for the cost of compliance with the draft proposed HRI rule, L&I considered a couple of factors; namely, the desired level of confidence and uncertainty in the cost estimates, and the anticipated response rate. Each of these is discussed below.

The Department first considered the level of confidence and uncertainty it was willing to accept in order to ensure the most rigorous and statistically valid compliance cost estimates. L&I chose conventional levels, 95 percent confidence with ±5 percent uncertainty. It next considered the size of the business account population from which the sample would be selected. After screening out locations that had closed, L&I pulled addresses and industry information for 230,715 physical locations of Washington businesses from its administrative Data Warehouse (refreshed as of April 3, 2007).

Given that the Department did not know key population characteristics (mean, variance, and standard deviation) with respect to each parameter of interest, the desired sample size was estimated based on a formula that assumes an infinitely large population.[40] It uses the most conservative estimate of probability ($p = .5$), as well as the desired precision (95% confidence level; ±5% uncertainty). One can make similar calculations using the actual known population size ($N = 230{,}715$ for all physical locations open and active as of April 3, 2007), but will get essentially the same result for the desired sample size ($n = 384$ using known N[41] as opposed to $n = 385$ assuming an infinitely large N).

In determining the requisite sample size, L&I also took into account the relatively low response rates it has historically reported for surveys to businesses regarding the costs of proposed rulemaking.[42] This was done by reviewing a number of economic analyses and rulemaking files

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[40] $n = [p*q]/[.05/1.96]^2$

[41] Sample size for known population size calculated using an online sample size calculator available at the following website: http://www.surveysystem.com/sscalc.htm.

[42] Reasons for the relatively low response to the regulatory cost surveys are unknown; however, L&I assumes that some or all of the following factors may be at play: (1) employers may not see any clear benefit to participating, (2) due to the ever-changing nature of businesses and the potential lag time in updating our administrative database, samples may include incorrect and outdated contact information, and (3) despite L&I's assurances to the contrary, employers may fear that the information they provide will be used against them in the form of citations, fines, or other enforcement measures.

involving surveys conducted over the past decade. Table A-1 in the appendix of the cost-benefit analysis presents a summary of the findings, including sample size, sampling methods, number of respondents, and response rate for each survey. Of the nine self-administered, mail-in cost surveys included in this review, sample sizes ranged from 323 to 5,644 and response rates ranged from 8% to 25%.

The final determination of sample size employed the above information to attain a desired sample size given that population parameters with respect to cost are unknown, the desirable confidence level is 95% (with +/- 5% uncertainty), and response rates for surveys of this nature tend to range from 8 to 25 percent. It also took into account the fact that the sampling frame is perhaps not as efficiently targeted as L&I would have liked given the somewhat allusive nature of heat-related illness exposure noted earlier (methods for deriving the sampling frame are discussed below). L&I ultimately chose a sample size of 5,500 because it is sufficient to yield statistically significant cost estimates, assuming a 7 percent response rate and conventional levels for statistical validity. That is, if assumptions were to hold, one would expect a returned sample size of 385, which would allow for statistically valid estimates of the overall cost of compliance. Yet there is most likely non-response bias in terms of who responded to the survey and who did not. This issue is discussed in section 6.2 of the cost-benefit analysis.

1.4. Sampling Frame

In building the sampling frame from which businesses would be randomly selected, L&I began with the total population of all open and active physical locations in the Department's administrative database, including both State Fund and Self-Insured employers. It then excluded industries from the sampling frame in three phases. First, industry sectors at the 2-digit NAICS-level were eliminated if they were unlikely to have any outdoor employees exposed to HRI hazards. Likewise, industries were eliminated at the 3- and then 6-digit NAICS-levels if they were unlikely to have outdoor employees exposed to HRI hazards (see Figure A-1 in the appendix of the cost-benefit analysis for a complete list of industries excluded from the sampling frame). Given the broad scope of the rule and the nature of heat-related illness hazards for outdoor workers, it was not possible to zero in on the exact industries likely to be impacted by this draft proposed rule. Instead, the sampling frame reflects those specific industries thought to be most likely to have outdoor workers. It is important to note that businesses in industries not included in the sampling frame will still need to be in compliance with the proposed heat-related illness rule if it is adopted and they employ outdoor workers in the summer months. Similarly, businesses in industries included in the sampling frame will not be subject to the rule if they do not employ any outdoor workers.

1.5. Proportionate Stratified Random Sampling

In conjunction with determining the desired sample size and the appropriate sampling frame, L&I also considered which sampling method would yield the most accurate cost estimates. The objective was to randomly select employers such that industries that received surveys were represented proportionate to their share of the overall sampling frame. Given this, L&I employed proportionate stratified random sampling by industry. This method allowed the Department to create strata at the industry-level that were assumed to be somewhat homogenous with respect to the likely costs of implementing the draft proposed heat-related illness rule, thus helping to reduce sampling variability (Pedhazur & Schmelkin, 1991: 331). To do this, L&I first determined what

percentage of the overall sampling frame (N = 87,351) each 2-digit industry sector comprised. It then determined the sample size needed for each industry by multiplying that industry's proportion of the sampling frame by the overall desired sample size (n = 5,500). To see the resulting sample sizes by industry, please refer to Table A-2 in the appendix of the cost-benefit analysis.

In order to randomly select businesses, L&I used an online random number generator (http://www.random.org) to obtain a list of random numbers for each industry that was the exact number of the sample size for each industry. Next, the Department numbered each business within each industry from 1 to n and used Vlookup in Excel to "grab" each business account that corresponded to a randomly generated number. This process of selection was not perfect, however, as the list of random numbers drew randomly *with replacement* such that there were some duplicate random draws. As a result, one of each duplicate pair was removed, as well as any accounts for which the Department did not have a mailing address.[43] In the end, 5,206 surveys were sent to employers, rather than the 5,500 originally planned. This is because 142 businesses in the randomly selected lists were found to be missing physical location addresses or to be closed. In addition, another 152 were one of a duplicate randomly drawn pair that was eliminated from the list. (Please see Table A-2 in the appendix of the cost-benefit analysis).

1.6. SURVEY

The cost survey sent to randomly selected businesses provided respondents with information about the existing standard (if one indeed existed) and then told them what the proposed rule requires and what this means for them. In order to establish a baseline, the survey then asked respondents to answer questions about what they were doing in 2006 to be in compliance with existing standards (such as WAC 296-800, Safety and Health Core Rules). If respondents were *not* doing something in 2006 that is part of the proposed rule, the survey asked what they would do to be in compliance if the rule were adopted. It also asked whether there would be an additional cost to their business and, if so, how much it would likely be. (Please see Figure A-2 in the appendix of the cost-benefit analysis for a copy of the survey that was sent).

The survey was sent by mail to randomly selected business ("Attn: business safety manager") on June 4th, 2007. Given that it asked respondents to estimate current and future costs, it was important to clarify that current costs referred to costs in the absence of any HRI rule. Since the HRI emergency rule for the summer of 2007 took effect at around the same time as the survey was disseminated to randomly selected businesses,[44] L&I sent a follow-up postcard indicating that survey respondents should think of their "current" activities and associated costs as what they were doing *prior* to the emergency rule taking effect. This is the best tool L&I had to communicate to employers the assumptions they should make in order to arrive at the best baseline cost estimates possible. That said, it is noteworthy that many of the survey recipients that called L&I's economic analyst were actually not familiar with the emergency rules from 2006 or 2007 and also had not heard about the draft proposed permanent rule.

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[43] Surveys were sent to the physical location address rather than the quarterly reporting address, the latter of which is used for accounting purposes. This was done to ensure that the person best able to answer questions pertaining to a particular site's costs would be the person receiving the survey. However, this created some problems in survey delivery. For example, some businesses appear to use a P.O. Box for mailing and do not receive mail at their physical location. Some of these businesses did not receive the survey but should have.

[44] An emergency rule pertaining to heat-related illness in the outdoor environment was adopted on June 5, 2007 and became effective June 18, 2007.

1.7. RESPONSE RATE

Between June 11 and July 13, 2007, L&I received 804 completed surveys from businesses of the 5,206 surveys sent. Of those sent, 720 are presumed to have been undeliverable because the follow-up postcard was "returned to sender".[45] In addition, 9 survey recipients contacted L&I by mail, email, or phone to inform the Department that their businesses had either closed or were not operational in 2006 (the year for which costs were to be estimated). All told, the response rate for completed surveys of the 5,206 sent was 15% (804 out of 5,206) and the response rate for those presumed to have been successfully delivered to active accounts was 18% (804 out of 4,477). Of the 804 respondents, 483 businesses (or 60%) reported that they had employees who worked outdoors in 2006. Respondents were instructed to only continue answering the survey if they had outdoor employees in 2006, so it is important to note that the 483 "useable" surveys represent 9% of the total surveys sent, 11% of those presumed to have been successfully delivered, and 60% of the 804 completed surveys that L&I received. (Please see Table A-5 in the appendix of the cost-benefit analysis, which accounts for all the surveys sent).

Of the 483 survey respondents who had outdoor employees in 2006, response rates by industry varied some from what L&I would have expected based on the sampling frame shown in Table A-2 in the appendix of the cost-benefit analysis.[46] That said, some industry-specific response rates were roughly proportionate to the number of surveys sent to that industry. For example, the construction industry represented 37.5% of surveys sent and 40.6% of respondents with outdoor employees. Yet other industries appear to have been represented more (or less) heavily in the pool of respondents relative to the sampling plan. For example, the agriculture, forestry, fishing, and hunting industry represented about 10.5% of the sampling frame but 18.2% of respondents. This may suggest that this industry sector is more likely to have outdoor employees relative to other industries in the sampling frame. It is also worth noting that a relatively high proportion of respondents with outdoor workers fell into the "other" category (about 19.3%). This may be explained by the fact that some respondents likely did not think any of the industry categories presented as options on the survey adequately reflected the nature of their work. (Please refer to Table A-3 and Table A-4 in the appendix of the cost-benefit analysis for a detailed breakdown of response rate by industry).

Of the 483 respondents with outdoor workers in 2006, 433 supplied sufficient information to determine whether or not they were a small business. Of those 433, approximately 89% (385) were small businesses, defined in the Regulatory Fairness Act (RCW 19.85) as any business entity that has 50 or fewer employees. This is roughly comparable to the percentage of Washington businesses statewide that meet this definition (about 86%). In order to determine whether or not a business was small, the Department considered responses to two questions: (1) the reported number of full-time

[45] This is approximate and quite likely an underestimate. Some businesses contacted the Department to say they received the postcard but not the survey and L&I re-sent them the survey. Presumably some employers received the postcard but not the survey and did not contact the Department to request the survey.

[46] Note the distinction in the definition of "industry" in the sampling frame as compared to the survey responses. Industry in the case of the sampling frame refers to the 2-digit North American Industrial Classification System (NAICS) industry sector. Industry in the case of the survey responses means the industry category presented on the survey that the respondent felt best described their firm's operations. Respondents may not have classified their businesses in the way that L&I employees trained in assigning NAICS codes to businesses may have, so there will likely be some natural discrepancy between the sampling frame and the surveys. For example, a disproportionate number of respondents classified themselves as "other," but upon reading the description they provided, it was apparent they should have been classified as another industry in the list provided to them.

equivalents (FTEs) in 2006, and (2) the reported number of part-time hours temporary/seasonal or part-time workers worked in 2006. A calculation was then made to convert part-time hours to FTEs by dividing the total number of part-time hours reported for a given business by 2,080. FTEs and converted FTEs were then summed and small businesses were determined to be those in which the sum of these two fields was equal to or less than 50 FTEs. One caveat is that if respondents did not complete the question asking how many FTEs they had in 2006, they were not included as part of the 433 respondents supplying sufficient information. If, however, only the field for part-time annual hours was missing or a legitimate skip, the reported number of FTEs was used to determine if the business was small or not.

2. ASSESSING ECONOMIC IMPACT BY SIZE OF BUSINESS

This Small Business Economic Impact Statement (SBEIS) considers the median cost per FTE per business for each component of the proposed HRI rule. Upper bound cost estimates were obtained using data from survey respondents who reported there would be an additional cost of a given component of the rule, provided a quantitative cost estimate, and also provided enough information such that the Department could calculate firm size. Lower bound cost estimates were obtained using this same data, but also including data from respondents who reported that a given component would cost the same or less to implement in the future. For respondents reporting that cost would be the same or less, the Department assigned a $0 cost. Given the greater data requirements per respondent (e.g., number of FTEs) required for the SBEIS, the sample sizes will not match up exactly with those presented in the cost-benefit analysis. This is because there was greater opportunity for missing data due to item non-response in the case of the SBEIS.

The Regulatory Fairness Act, RCW 19.85.040(1), requires that in determining whether a proposed rule will disproportionately impact small businesses, the Department compare "the cost of compliance for small businesses with the cost of compliance for the ten percent of businesses that are the largest businesses required to comply with the proposed rules…" This comparison can be made based on the cost per FTE. Conveniently, the number of returned surveys with outdoor workers L&I received was 483 and the number of businesses that reported having 51 or more employees was 48. Since 48 is approximately 10% of 483, the costs to all of these bigger businesses have been included in this analysis and are compared to all the other businesses that responded (the latter of whom had 50 or fewer employees).

The upper bound estimates in the following sections are distinct from the upper bound estimates presented in the cost-benefit analysis in that those presented here include respondents who provided inconsistent responses (suggesting bias). This is because the purpose here is to get the best estimate of the extent to which there may be a disproportionate impact on small businesses rather than to get the most accurate cost estimate. As a result, the upper bound estimates presented here are likely inflated but work from the assumption that they are inflated in the same direction and to the relatively same extent for both small and big businesses.

2.1. IDENTIFYING AND EVALUATING TEMPERATURE AND OTHER FACTORS

2.1.1. UPPER BOUND COST PER FTE ESTIMATE

On the survey sent to employers, question 6b asked respondents whether there would be a cost to put in place measures to identify and evaluate temperature and environmental factors if this proposed rule component were adopted. Approximately 34 employers reported that there would be an additional cost to their business to take steps to identify and evaluate temperature and environmental factors if the draft proposed HRI rule were adopted. Of these 34 respondents, only 3 businesses had more than 50 employees, while 31 of these respondents had 50 or fewer employees. Of the 3 businesses with 51 or more employees who reported an additional cost, the median daily cost per FTE was $1.48. The corresponding cost for the 31 small businesses was $2.20 per FTE per day. In light of this, the upper bound cost per FTE is estimated to be approximately 1.5 times greater for small businesses compared to businesses with 51 or more employees.

Upper Bound – Survey Questions 6b and 6c: Cost Per Day Per FTE to Identify and Evaluate Environmental Factors (Employers Responding 'MORE' to 6b)		
	Small Businesses	**Not Small Businesses**
Mean	11.50	1.19
Standard Error	4.41	0.39
Median	**2.20**	**1.48**
Standard Deviation	24.58	0.67
Sample Variance	604.14	0.45
Skewness	3.00	-1.58
Range	99.98	1.25
Minimum	0.03	0.42
Maximum	100.00	1.67
Sum	356.57	3.58
Count	**31.00**	**3.00**
Confidence Level (95.0%)	9.02	1.68

2.1.2. LOWER BOUND COST PER FTE ESTIMATE

The lower bound estimate is also based on question 6b from the survey, which asked respondents whether there would be a cost to put in place measures to identify and evaluate temperature and environmental factors. Approximately 414 employers with outdoor workers answered the question and reported that it would cost "less," the "same," or "more" if the draft proposed HRI rule were adopted. Of these 414 respondents, 46 businesses had more than 51 or more employees, while 368 of these respondents had 50 or fewer employees. Of the 46 businesses with 51 or more employees, the median daily cost per FTE was $0. The corresponding cost for the 368 small businesses was also $0 per FTE per day. In light of this, the

lower bound cost per FTE is estimated to be approximately the same for small businesses as compared to businesses with 51 or more employees.

Lower Bound: Survey Questions 6, 6b, and 6c: Cost Per Day Per FTE to Identify and Evaluate Environmental Factors (Employers Responding 'LESS,' 'SAME' or 'MORE' to 6b)		
	Small Businesses	**Not Small Businesses**
Mean	1.09	0.08
Standard Error	0.42	0.05
Median	**0.00**	**0.00**
Mode	0.00	0.00
Standard Deviation	8.11	0.33
Sample Variance	65.81	0.11
Kurtosis	108.86	19.06
Skewness	10.06	4.44
Range	100.00	1.67
Minimum	0.00	0.00
Maximum	100.00	1.67
Sum	402.18	3.58
Count	**368.00**	**46.00**
Confidence Level(95.0%)	0.83	0.10

2.2. Preventing, Controlling, and Correcting HRI Hazards

2.2.1. Upper Bound Cost per FTE Estimate

On the survey sent to employers, question 7b asked respondents whether there would be a cost to prevent, control, and correct HRI hazards if this draft proposed rule component were adopted. Approximately 42 employers reported that there would be an additional cost to their business to take steps to prevent, control, and correct HRI hazards if the draft proposed HRI rule were adopted. Of these 42 respondents, only 4 businesses had 51 or more employees, while 38 of these respondents had 50 or fewer employees. Of the 4 businesses with 51 or more employees who reported an additional cost, the median daily cost per FTE was $3.15. The corresponding cost for the 38 small businesses was $6.83 per FTE per day. In light of this, the upper bound cost

per FTE is estimated to be approximately 2.2 times greater for small businesses compared to businesses with 51 or more employees.

Upper Bound – Survey Questions 7b and 7c: Cost Per Day Per FTE to Prevent, Control, and Correct HRI Hazards (Employers Reporting 'MORE' to 7b)		
	Small Businesses	**Not Small Businesses**
Mean	32.60	7.43
Standard Error	11.66	5.29
Median	**6.83**	**3.15**
Standard Deviation	71.86	10.57
Sample Variance	5163.55	111.80
Kurtosis	27.55	3.70
Skewness	4.96	1.90
Range	432.50	22.89
Minimum	0.83	0.27
Maximum	433.33	23.16
Sum	1238.90	29.72
Count	**38.00**	**4.00**
Confidence Level(95.0%)	23.62	16.82

2.2.2. Lower Bound Cost per FTE Estimate

The lower bound estimate is also based on question 7b from the survey, which asked respondents whether there would be a cost to put in place measures to prevent, control, and correct HRI hazards if this draft proposed rule component were adopted. Approximately 413 employers reported that it would cost "less," the "same," or "more." Of these 413 respondents, 44 businesses had 51 or more employees, while 369 of these respondents had 50 or fewer employees. Of the 44 businesses with 51 or more employees, the median daily cost per FTE was $0. The corresponding cost for the 369 small businesses was also $0 per FTE per day. In light of this, the lower bound cost per FTE is estimated to be approximately the same for small businesses as compared to businesses with 51 or more employees.

Lower Bound – Survey Questions 7b and 7c: Cost Per Day Per FTE to Prevent, Control, and Correct HRI Hazards (Employers Reporting 'LESS', 'SAME', or 'MORE' to 7b)		
	Small Businesses	**Not Small Businesses**
Mean	3.36	0.68
Standard Error	1.29	0.53
Median	**0.00**	**0.00**
Mode	0.00	0.00
Standard Deviation	24.85	3.53
Sample Variance	617.62	12.47
Kurtosis	245.97	40.73
Skewness	14.62	6.30
Range	433.33	23.16
Minimum	0.00	0.00
Maximum	433.33	23.16
Sum	1238.90	29.72
Count	**369.00**	**44.00**
Confidence Level(95.0%)	2.54	1.07

2.3. Drinking Water

2.3.1. Upper Bound Cost per FTE Estimate

On the survey sent to employers, question 11 asked respondents whether there would be an additional cost to provide 1 quart of water per employee per hour per day if this draft proposed rule component were adopted. Approximately 105 employers reported that there would be an additional cost to their business to provide this water. Of these 105 respondents, 13 businesses had 51 or more employees, while 92 of these respondents had 50 or fewer employees. Of the 13 businesses with 51 or more employees who reported an additional cost, the median daily cost per FTE was $0.33. The corresponding cost for the 92 small businesses was $2.48 per FTE per day. <u>In light of this, the upper bound cost per FTE is estimated to be approximately 7.5 times greater for small businesses compared to businesses with 51 or more employees</u>.

Upper Bound – Survey Questions 11 and 11a: Cost Per Day Per FTE to Provide 1 Quart of Water Per Outdoor Employee Per Hour Per Day (Employers Reporting 'MORE' to 11)		
	Small Businesses	**Not Small Businesses**
Mean	12.19	1.85
Standard Error	5.58	0.63
Median	**2.48**	**0.33**
Standard Deviation	53.50	2.28
Sample Variance	2862.77	5.18
Kurtosis	78.14	-0.89
Skewness	8.59	0.95
Range	499.98	5.85
Minimum	0.02	0.09
Maximum	500.00	5.93
Sum	1121.64	23.99
Count	**92.00**	**13.00**
Confidence Level(95.0%)	11.08	1.38

2.3.2. Lower Bound Cost per FTE Estimate

The lower bound estimate is also based on question 11 from the survey, which asked respondents whether there would be a cost to provide 1 quart of water per employee per hour per day if this draft proposed rule component were adopted. Approximately 360 employers reported that it would cost "less," the "same," or "more." Of these 360 respondents, 40 businesses had 51 or more employees, while 320 of these respondents had 50 or fewer employees. Of the 40 businesses with 51 or more employees, the median daily cost per FTE was $0. The corresponding cost for the 320 small businesses was also $0 per FTE per day. <u>In light of this, the lower bound cost per FTE is estimated to be approximately the same for small businesses as compared to businesses with 51 or more employees</u>.

Lower Bound – Survey Questions 11 and 11a: Cost Per Day Per FTE to Provide 1 Quart of Water Per Outdoor Employee Per Hour Per Day (Employers Reporting 'LESS', 'SAME', or 'MORE' to 11)		
	Small Businesses	**Not Small Businesses**
Mean	3.37	0.60

Lower Bound – Survey Questions 11 and 11a: Cost Per Day Per FTE to Provide 1 Quart of Water Per Outdoor Employee Per Hour Per Day (Employers Reporting 'LESS', 'SAME', or 'MORE' to 11)		
Standard Error	1.16	0.24
Median	**0.00**	**0.00**
Mode	0.00	0.00
Standard Deviation	20.67	1.54
Sample Variance	427.21	2.36
Kurtosis	129.97	6.25
Skewness	10.72	2.72
Range	288.00	5.93
Minimum	0.00	0.00
Maximum	288.00	5.93
Sum	1077.53	23.99
Count	**320.00**	**40.00**
Confidence Level(95.0%)	2.27	0.49

2.4. Responding to Signs and Symptoms of HRI

2.4.1. Upper Bound Cost per FTE Estimate

On the survey sent to employers, question 13 asked respondents whether there would be an additional cost to cool employees experiencing the signs of symptoms of heat-related illness if this proposed rule component were adopted. Approximately 25 employers reported that there would be an additional cost to their business. Of these 25 respondents, 5 businesses had 51 or more employees, while 20 of these respondents had 50 or fewer employees. Of the 5 businesses with 51 or more employees who reported an additional cost, the median daily cost per FTE was $0.74. The corresponding cost for the 20 small businesses was $5.78 per FTE per day. <u>In light of this, the upper bound cost per FTE is estimated to be approximately 7.8 times greater for small businesses compared to businesses with 51 or more employees</u>.

Upper Bound – Survey Questions 13b and 13c: Cost Per Day (in Dollars) to Cool Employees Experiencing Signs and Symptoms of HRI (Employers Reporting 'MORE' to 13b)		
	Small Businesses	**Not Small Businesses**
Mean	193.30	1.27
Standard Error	169.15	0.60
Median	**5.78**	**0.74**
Standard Deviation	756.44	1.33
Sample Variance	572200.82	1.78
Kurtosis	19.79	0.41
Skewness	4.44	1.13
Range	3399.77	3.28
Minimum	0.23	0.05
Maximum	3400.00	3.33
Sum	3866.03	6.33
Count	**20.00**	**5.00**
Confidence Level(95.0%)	354.02	1.65

2.4.2. Lower Bound Cost per FTE Estimate

The lower bound estimate is also based on question 13 from the survey, which asked respondents whether there would be a cost to cool employees experiencing the signs of symptoms of heat-related illness. Approximately 406 employers reported that it would cost "less," the "same," or "more." Of these 406 respondents, 45 businesses had 51 or more employees, while 361 of these respondents had 50 or fewer employees. Of the 45 businesses with 51 or more employees, the median daily cost per FTE was $0. The corresponding cost for the 361 small businesses was also $0 per FTE per day. <u>In light of this, the lower bound cost per FTE is estimated to be approximately the same for small businesses as compared to businesses with 51 or more employees</u>.

Lower Bound: Survey Questions 13b and 13c: Cost Per Day (in Dollars) to Cool Employees Experiencing Signs and Symptoms of HRI (Employers Reporting 'LESS', 'SAME', or 'MORE' to 13b)		
	Small Businesses	**Not Small Businesses**
Mean	10.71	0.14

Lower Bound: Survey Questions 13b and 13c: Cost Per Day (in Dollars) to Cool Employees Experiencing Signs and Symptoms of HRI (Employers Reporting 'LESS', 'SAME', or 'MORE' to 13b)		
Standard Error	9.44	0.08
Median	**0.00**	**0.00**
Mode	0.00	0.00
Standard Deviation	179.33	0.57
Sample Variance	32160.34	0.32
Kurtosis	357.33	24.69
Skewness	18.86	4.84
Range	3400.00	3.33
Minimum	0.00	0.00
Maximum	3400.00	3.33
Sum	3866.03	6.27
Count	**361.00**	**45.00**
Confidence Level(95.0%)	18.56	0.17

2.5. Information and Training

2.5.1. Upper Bound Cost per FTE Estimate

On the survey sent to employers, question 14 asked respondents whether there would be an additional cost to provide information and training on HRI if this proposed rule component were adopted. Question 14a asked those who responded "yes" how much they spent on information and training in 2006. Question 15 asked all respondents how much it would likely cost to provide HRI information and training in the future if the draft proposed rule were adopted. Approximately 260 employers provided sufficient information to subtract current costs from future costs (or use future costs alone for those who responded "no" to question 14). Of these 260 respondents, 33 businesses had 51 or more employees, while 227 of these respondents had 50 or fewer employees. Of the 33 businesses with 51 or more employees who reported an additional cost, the median *annual* cost per FTE was $5.75. The corresponding cost for the 227 small businesses was $50.00 per FTE per year. In light of this, the upper bound cost per FTE is

estimated to be approximately 8.7 times greater for small businesses compared to businesses with 51 or more employees.

Upper Bound – Survey Questions 14, 14a, and 15: Annual Cost (in Dollars) to Provide Training on the Prevention of Heat-Related Illness (Employers' Future – Current Reported Costs)		
	Small Businesses	**Not Small Businesses**
Mean	193.88	17.95
Standard Error	41.48	6.41
Median	**50.00**	**5.75**
Mode	0.00	0.00
Standard Deviation	624.91	36.83
Sample Variance	390511.03	1356.50
Kurtosis	55.54	13.57
Skewness	5.51	3.52
Range	9539.90	184.88
Minimum	-2901.60	-0.84
Maximum	6638.30	184.04
Sum	44010.08	592.41
Count	**227.00**	**33.00**
Confidence Level (95.0%)	81.73	13.06

2.5.2. LOWER BOUND COST PER FTE ESTIMATE[47]

The lower bound estimate is based on question 14 and 15 from the survey, which asked respondents whether there would be a cost to provide HRI information and training to employees if this draft proposed rule component were adopted. Approximately 154 employers reported that they were not providing information and training on HRI in 2006. Of these 154 respondents, 15 businesses had 51 or more employees, while 139 of these respondents had 50 or fewer employees. Of the 15 businesses with 51 or more employees, the median *annual* cost per FTE was $12. The corresponding cost for the 139 small businesses was $67 per FTE per year. In light

[47] Note that the section of the survey that asked about training costs was structured differently than the other sections in that there was not an opportunity to answer that it would cost less, the same, or more. Rather, respondents were asked to estimate current costs if they were already providing HRI training. In addition, all respondents were asked to estimate future costs. The different structure of this question may explain why it, unlike the other questions, resulted in a median lower bound cost greater than $0 for both small and non-small businesses.

of this, the lower bound cost per FTE is estimated to be approximately 5.6 times greater for small businesses as compared to businesses with 51 or more employees.

Lower Bound – Survey Questions 14 and 15: Annual Cost (in Dollars) to Provide Training on the Prevention of Heat-Related Illness (Employers Reporting 'NO' to 14)		
	Small Businesses	**Not Small Businesses**
Mean	341	15
Standard Error	115	5
Median	**67**	**12**
Standard Deviation	1352	18
Sample Variance	1827695	315
Kurtosis	55	10
Skewness	7	3
Range	12480	73
Minimum	0	1
Maximum	12480	74
Sum	47442	232
Count	**139**	**15**
Confidence Level (95.0%)	227	10

3. REDUCING THE COST FOR SMALL BUSINESSES

The department is taking the following steps to reduce the costs of the rule on small businesses:

(1) **Reduced fines for small businesses.** RCW 49.17.180 addresses the civil penalties for WISHA citations. RCW 49.17.180(7) requires the Department give consideration in the penalty assessment to factors including the size of the employer's business. The WAC code that spells out the specific process for penalty adjustments including employer size is WAC 296-900-14015 (see Table 5).

(2) **Enhanced outreach and education to small businesses.** The Department will make a concerted effort to focus its education and outreach campaign on small businesses. This will include providing employers with materials, such as draft language to insert in their Accident Prevention Plans (APPs) and free HRI training materials and train-the-trainer meetings.

4. SMALL BUSINESS INVOLVEMENT IN THE RULEMAKING PROCESS

The Department has made a considerable effort to involve small businesses and their representative agencies at various points in the rulemaking process, beginning in 2005. Most recently, the Department held stakeholder meetings in Tumwater, Bellevue, Yakima, and Spokane to hear from the business community, many of whom were small businesses. There was also a public comment period around this time. In addition, L&I recently held two separate stakeholder meetings in Tumwater in November 2007.

5. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE RULE

Table A-1 in the appendix of this SBEIS includes a list of all the industries included in the sampling frame for the cost survey. Some of these industries, and some businesses within industries, will not have outdoor workers and thus will not be required to comply with the draft proposed HRI rule. Moreover, the rule was revised after the survey was conducted such that employees with only incidental exposure to outdoor HRI hazards are not covered by this rule. As a result, this list likely overstates the scope of the rule with respect to covered industries.

6. NUMBER OF JOBS CREATED OR LOST

The Department does not anticipate that any jobs will be created or lost as a result of compliance with the proposed HRI rule. This is because the requirements are such that employers will be able to meet them using existing staff and without the need to hire additional staff. Similarly, there is no reason to suspect that employers would need to dismiss employees as a result of the draft proposed HRI rule.

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State of Washington Office of the Governor, Letter from Governor Christine Gregoire "Re: Petition Requesting Repeal of Emergency Rule WAC 296-62-095," June 12, 2007. Olympia, WA.

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
Naics Code	**Naics Code Description**
11	**AGRICULTURE, FORESTRY, FISHING, AND HUNTING**
111110	SOYBEAN FARMING
111120	OILSEED (EXCEPT SOYBEAN) FARMING
111130	DRY PEA AND BEAN FARMING
111140	WHEAT FARMING
111150	CORN FARMING
111160	RICE FARMING
111191	OILSEED AND GRAIN COMBINATION FARMING
111199	ALL OTHER GRAIN FARMING
111211	POTATO FARMING
111219	OTHER VEGETABLE (EXCEPT POTATO) AND MELON FARMING
111310	ORANGE GROVES
111320	CITRUS (EXCEPT ORANGE) GROVES
111331	APPLE ORCHARDS
111332	GRAPE VINEYARDS
111333	STRAWBERRY FARMING
111334	BERRY (EXCEPT STRAWBERRY) FARMING
111335	TREE NUT FARMING
111336	FRUIT AND TREE NUT COMBINATION FARMING
111339	OTHER NONCITRUS FRUIT FARMING
111411	MUSHROOM PRODUCTION
111419	OTHER FOOD CROPS GROWN UNDER COVER
111421	NURSERY AND TREE PRODUCTION
111422	FLORICULTURE PRODUCTION
111910	TOBACCO FARMING
111920	COTTON FARMING
111930	SUGARCANE FARMING
111940	HAY FARMING
111991	SUGAR BEET FARMING
111992	PEANUT FARMING
111998	ALL OTHER MISCELLANEOUS CROP FARMING
112111	BEEF CATTLE RANCHING AND FARMING
112112	CATTLE FEEDLOTS
112120	DAIRY CATTLE AND MILK PRODUCTION
112210	HOG AND PIG FARMING
112310	CHICKEN EGG PRODUCTION
112320	BROILERS AND OTHER MEAT TYPE CHICKEN PRODUCTION
112330	TURKEY PRODUCTION
112340	POULTRY HATCHERIES
112390	OTHER POULTRY PRODUCTION
112410	SHEEP FARMING

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
112420	GOAT FARMING
112511	FINFISH FARMING AND FISH HATCHERIES
112512	SHELLFISH FARMING
112519	OTHER ANIMAL AQUACULTURE
112910	APICULTURE
112920	HORSE AND OTHER EQUINE PRODUCTION
112930	FUR-BEARING ANIMAL AND RABBIT PRODUCTION
112990	ALL OTHER ANIMAL PRODUCTION
113110	TIMBER TRACT OPERATIONS
113210	FOREST NURSERIES AND GATHERING OF FOREST PRODUCTS
113310	LOGGING
114111	FINFISH FISHING
114112	SHELLFISH FISHING
114119	OTHER MARINE FISHING
114210	HUNTING AND TRAPPING
115111	COTTON GINNING
115112	SOIL PREPARATION, PLANTING, AND CULTIVATING
115113	CROP HARVESTING, PRIMARILY BY MACHINE
115114	POSTHARVEST CROP ACTIVITIES (EXCEPT COTTON GINNING)
115115	FARM LABOR CONTRACTORS AND CREW LEADERS
115116	FARM MANAGEMENT SERVICES
115210	SUPPORT ACTIVITIES FOR ANIMAL PRODUCTION
115310	SUPPORT ACTIVITIES FOR FORESTRY
22	**UTILITIES**
221111	HYDROELECTRIC POWER GENERATION
221112	FOSSIL FUEL ELECTRIC POWER GENERATION
221113	NUCLEAR ELECTRIC POWER GENERATION
221119	OTHER ELECTRIC POWER GENERATION
221121	ELECTRIC BULK POWER TRANSMISSION AND CONTROL
221122	ELECTRIC POWER DISTRIBUTION
221210	NATURAL GAS DISTRIBUTION
221310	WATER SUPPLY AND IRRIGATION SYSTEMS
221320	SEWAGE TREATMENT FACILITIES
221330	STEAM AND AIR-CONDITIONING SUPPLY
23	**CONSTRUCTION**
236115	NEW SINGLE-FAMILY HOUSING CONSTRUCTION (EXCEPT OPERATIVE
236116	NEW MULTIFAMILY HOUSING CONSTRUCTION (EXCEPT OPERATIVE B
236117	NEW HOUSING OPERATIVE BUILDERS
236118	RESIDENTIAL REMODELERS
236210	INDUSTRIAL BUILDING CONSTRUCTION
236220	COMMERCIAL AND INSTITUTIONAL BUILDING CONSTRUCTION

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
237110	WATER AND SEWER LINE AND RELATED STRUCTURES CONSTRUCTION
237120	OIL AND GAS PIPELINE AND RELATED STRUCTURES CONSTRUCTION
237130	POWER AND COMMUNICATION LINE AND RELATED STRUCTURES CONS
237210	LAND SUBDIVISION
237310	HIGHWAY, STREET, AND BRIDGE CONSTRUCTION
237990	OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION
238110	POURED CONCRETE FOUNDATION AND STRUCTURE CONTRACTORS
238120	STRUCTURAL STEEL AND PRECAST CONCRETE CONTRACTORS
238130	FRAMING CONTRACTORS
238140	MASONRY CONTRACTORS
238150	GLASS AND GLAZING CONTRACTORS
238160	ROOFING CONTRACTORS
238170	SIDING CONTRACTORS
238190	OTHER FOUNDATION, STRUCTURE, AND BUILDING EXTERIOR CONTR
238210	ELECTRICAL CONTRACTORS
238220	PLUMBING, HEATING, AND AIR-CONDITIONING CONTRACTORS
238290	OTHER BUILDING EQUIPMENT CONTRACTORS
238310	DRYWALL AND INSULATION CONTRACTORS
238320	PAINT AND WALL COVERING CONTRACTORS
238330	FLOORING CONTRACTORS
238340	TILE AND TERRAZZO CONTRACTORS
238350	FINISH CARPENTRY CONTRACTORS
238390	OTHER BUILDING FINISHING CONTRACTORS
238910	SITE PREPARATION CONTRACTORS
238990	ALL OTHER SPECIALTY TRADE CONTRACTORS
42	**WHOLESALE TRADE**
423110	AUTOMOBILE AND OTHER MOTOR VEHICLE MERCHANT WHOLESALERS
423120	MOTOR VEHICLE SUPPLIES AND NEW PARTS MERCHANT WHOLESALER
423130	TIRE AND TUBE MERCHANT WHOLESALERS
423140	MOTOR VEHICLE PARTS (USED) MERCHANT WHOLESALERS
423210	FURNITURE MERCHANT WHOLESALERS
423220	HOME FURNISHING MERCHANT WHOLESALERS
423310	LUMBER, PLYWOOD, MILLWORK, AND WOOD PANEL MERCHANT WHOLE
423320	BRICK, STONE, AND RELATED CONSTRUCTION MATERIAL MERCHANT
423330	ROOFING, SIDING, AND INSULATION MATERIAL MERCHANT WHOLES
423390	OTHER CONSTRUCTION MATERIAL MERCHANT WHOLESALERS

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
423410	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES MERCHANT WHOLESALERS
423420	OFFICE EQUIPMENT MERCHANT WHOLESALERS
423430	COMPUTER AND COMPUTER PERIPHERAL EQUIPMENT AND SOFTWARE
423440	OTHER COMMERCIAL EQUIPMENT MERCHANT WHOLESALERS
423450	MEDICAL, DENTAL, AND HOSPITAL EQUIPMENT AND SUPPLIES MER
423460	OPHTHALMIC GOODS MERCHANT WHOLESALERS
423490	OTHER PROFESSIONAL EQUIPMENT AND SUPPLIES MERCHANT WHOLE
423510	METAL SERVICE CENTERS AND OTHER METAL MERCHANT WHOLESALE
423520	COAL AND OTHER MINERAL AND ORE MERCHANT WHOLESALERS
423610	ELECTRICAL APPARATUS AND EQUIPMENT, WIRING SUPPLIES, AND
423620	ELECTRICAL AND ELECTRONIC APPLIANCE, TELEVISION, AND RAD
423690	OTHER ELECTRONIC PARTS AND EQUIPMENT MERCHANT WHOLESALER
423710	HARDWARE MERCHANT WHOLESALERS
423720	PLUMBING AND HEATING EQUIPMENT AND SUPPLIES (HYDRONICS)
423730	WARM AIR HEATING AND AIR-CONDITIONING EQUIPMENT AND SUPP
423740	REFRIGERATION EQUIPMENT AND SUPPLIES MERCHANT WHOLESALER
423810	CONSTRUCTION AND MINING (EXCEPT OIL WELL) MACHINERY AND
423820	FARM AND GARDEN MACHINERY AND EQUIPMENT MERCHANT WHOLESA
423830	INDUSTRIAL MACHINERY AND EQUIPMENT MERCHANT WHOLESALERS
423840	INDUSTRIAL SUPPLIES MERCHANT WHOLESALERS
423850	SERVICE ESTABLISHMENT EQUIPMENT AND SUPPLIES MERCHANT WH
423860	TRANSPORTATION EQUIPMENT AND SUPPLIES (EXCEPT MOTOR VEHI
423910	SPORTING AND RECREATIONAL GOODS AND SUPPLIES MERCHANT WH
423920	TOY AND HOBBY GOODS AND SUPPLIES MERCHANT WHOLESALERS
423930	RECYCLABLE MATERIAL MERCHANT WHOLESALERS
423940	JEWELRY, WATCH, PRECIOUS STONE, AND PRECIOUS METAL MERCH
423990	OTHER MISCELLANEOUS DURABLE GOODS MERCHANT WHOLESALERS
425110	BUSINESS TO BUSINESS ELECTRONIC MARKETS
425120	WHOLESALE TRADE AGENTS AND BROKERS
44-45	**RETAIL TRADE**

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441110	NEW CAR DEALERS
441120	USED CAR DEALERS
441210	RECREATIONAL VEHICLE DEALERS
441221	MOTORCYCLE DEALERS
441222	BOAT DEALERS
441229	ALL OTHER MOTOR VEHICLE DEALERS
444110	HOME CENTERS
444190	OTHER BUILDING MATERIAL DEALERS
444210	OUTDOOR POWER EQUIPMENT STORES
444220	NURSERIES, GARDEN CENTERS, AND FARM SUPPLY STORES
453930	MANUFACTURED (MOBILE) HOME DEALERS
48	**TRANSPORTATION AND WAREHOUSING**
481111	SCHEDULED PASSENGER AIR TRANSPORTATION
481112	SCHEDULED FREIGHT AIR TRANSPORTATION
481211	NONSCHEDULED CHARTERED PASSENGER AIR TRANSPORTATION
481212	NONSCHEDULED CHARTERED FREIGHT AIR TRANSPORTATION
481219	OTHER NONSCHEDULED AIR TRANSPORTATION
482111	LINE-HAUL RAILROADS
482112	SHORT LINE RAILROADS
483111	DEEP SEA FREIGHT TRANSPORTATION
483112	DEEP SEA PASSENGER TRANSPORTATION
483113	COASTAL AND GREAT LAKES FREIGHT TRANSPORTATION
483114	COASTAL AND GREAT LAKES PASSENGER TRANSPORTATION
483211	INLAND WATER FREIGHT TRANSPORTATION
483212	INLAND WATER PASSENGER TRANSPORTATION
484110	GENERAL FREIGHT TRUCKING, LOCAL
484121	GENERAL FREIGHT TRUCKING, LONG-DISTANCE, TRUCKLOAD
484122	GENERAL FREIGHT TRUCKING, LONG-DISTANCE, LESS THAN TRUCK
484210	USED HOUSEHOLD AND OFFICE GOODS MOVING
484220	SPECIALIZED FREIGHT (EXCEPT USED GOODS) TRUCKING, LOCAL
484230	SPECIALIZED FREIGHT (EXCEPT USED GOODS) TRUCKING, LONG-D
485111	MIXED MODE TRANSIT SYSTEMS
485112	COMMUTER RAIL SYSTEMS
485113	BUS AND OTHER MOTOR VEHICLE TRANSIT SYSTEMS
485119	OTHER URBAN TRANSIT SYSTEMS
485210	INTERURBAN AND RURAL BUS TRANSPORTATION
485310	TAXI SERVICE
485320	LIMOUSINE SERVICE
485410	SCHOOL AND EMPLOYEE BUS TRANSPORTATION
485510	CHARTER BUS INDUSTRY
485991	SPECIAL NEEDS TRANSPORTATION
485999	ALL OTHER TRANSIT AND GROUND PASSENGER TRANSPORTATION
486110	PIPELINE TRANSPORTATION OF CRUDE OIL

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
486210	PIPELINE TRANSPORTATION OF NATURAL GAS
486910	PIPELINE TRANSPORTATION OF REFINED PETROLEUM PRODUCTS
486990	ALL OTHER PIPELINE TRANSPORTATION
487110	SCENIC AND SIGHTSEEING TRANSPORTATION, LAND
487210	SCENIC AND SIGHTSEEING TRANSPORTATION, WATER
487990	SCENIC AND SIGHTSEEING TRANSPORTATION, OTHER
488111	AIR TRAFFIC CONTROL
488119	OTHER AIRPORT OPERATIONS
488190	OTHER SUPPORT ACTIVITIES FOR AIR TRANSPORTATION
488210	SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION
488310	PORT AND HARBOR OPERATIONS
488320	MARINE CARGO HANDLING
488330	NAVIGATIONAL SERVICES TO SHIPPING
488390	OTHER SUPPORT ACTIVITIES FOR WATER TRANSPORTATION
488410	MOTOR VEHICLE TOWING
488490	OTHER SUPPORT ACTIVITIES FOR ROAD TRANSPORTATION
488510	FREIGHT TRANSPORTATION ARRANGEMENT
488991	PACKING AND CRATING
488999	ALL OTHER SUPPORT ACTIVITIES FOR TRANSPORTATION
491110	POSTAL SERVICE
492110	COURIERS
492210	LOCAL MESSENGERS AND LOCAL DELIVERY
493110	GENERAL WAREHOUSING AND STORAGE
493120	REFRIGERATED WAREHOUSING AND STORAGE
493130	FARM PRODUCT WAREHOUSING AND STORAGE
493190	OTHER WAREHOUSING AND STORAGE
51	**INFORMATION**
511110	NEWSPAPER PUBLISHERS
511120	PERIODICAL PUBLISHERS
511130	BOOK PUBLISHERS
511140	DIRECTORY AND MAILING LIST PUBLISHERS
511191	GREETING CARD PUBLISHERS
511199	ALL OTHER PUBLISHERS
511210	SOFTWARE PUBLISHERS
512110	MOTION PICTURE AND VIDEO PRODUCTION
512120	MOTION PICTURE AND VIDEO DISTRIBUTION
512131	MOTION PICTURE THEATERS (EXCEPT DRIVE-INS)
512132	DRIVE-IN MOTION PICTURE THEATERS
512191	TELEPRODUCTION AND OTHER POSTPRODUCTION SERVICES
512199	OTHER MOTION PICTURE AND VIDEO INDUSTRIES
512210	RECORD PRODUCTION
512220	INTEGRATED RECORD PRODUCTION/DISTRIBUTION
512230	MUSIC PUBLISHERS

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
512240	SOUND RECORDING STUDIOS
512290	OTHER SOUND RECORDING INDUSTRIES
515111	RADIO NETWORKS
515112	RADIO STATIONS
515120	TELEVISION BROADCASTING
515210	CABLE AND OTHER SUBSCRIPTION PROGRAMMING
516110	INTERNET PUBLISHING AND BROADCASTING
517110	WIRED TELECOMMUNICATIONS CARRIERS
517211	PAGING
517212	CELLULAR AND OTHER WIRELESS TELECOMMUNICATIONS
517310	TELECOMMUNICATIONS RESELLERS
517410	SATELLITE TELECOMMUNICATIONS
517510	CABLE AND OTHER PROGRAM DISTRIBUTION
517910	OTHER TELECOMMUNICATIONS
518111	INTERNET SERVICE PROVIDERS
518112	WEB SEARCH PORTALS
518210	DATA PROCESSING, HOSTING, AND RELATED SERVICES
519110	NEWS SYNDICATES
519120	LIBRARIES AND ARCHIVES
519190	ALL OTHER INFORMATION SERVICES
53	**REAL ESTATE AND RENTAL AND LEASING**
532111	PASSENGER CAR RENTAL
532112	PASSENGER CAR LEASING
532120	TRUCK, UTILITY TRAILER, AND RV (RECREATIONAL VEHICLE) RE
532210	CONSUMER ELECTRONICS AND APPLIANCES RENTAL
532220	FORMAL WEAR AND COSTUME RENTAL
532230	VIDEO TAPE AND DISC RENTAL
532291	HOME HEALTH EQUIPMENT RENTAL
532292	RECREATIONAL GOODS RENTAL
532299	ALL OTHER CONSUMER GOODS RENTAL
532310	GENERAL RENTAL CENTERS
532411	COMMERCIAL AIR, RAIL, AND WATER TRANSPORTATION EQUIPMENT
532412	CONSTRUCTION, MINING, AND FORESTRY MACHINERY AND EQUIPME
532420	OFFICE MACHINERY AND EQUIPMENT RENTAL AND LEASING
532490	OTHER COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT
54	**PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES**
541310	ARCHITECTURAL SERVICES
541320	LANDSCAPE ARCHITECTURAL SERVICES
541330	ENGINEERING SERVICES
541340	DRAFTING SERVICES
541350	BUILDING INSPECTION SERVICES

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
541360	GEOPHYSICAL SURVEYING AND MAPPING SERVICES
541370	SURVEYING AND MAPPING (EXCEPT GEOPHYSICAL) SERVICES
541710	RESEARCH AND DEVELOPMENT IN THE PHYSICAL, ENGINEERING, A
56	**ADMINISTRATIVE & SUPPORT & WASTE MANAGEMENT & REMEDIATION SERVICES**
561110	OFFICE ADMINISTRATIVE SERVICES
561210	FACILITIES SUPPORT SERVICES
561310	EMPLOYMENT PLACEMENT AGENCIES
561320	TEMPORARY HELP SERVICES
561330	PROFESSIONAL EMPLOYER ORGANIZATIONS
561410	DOCUMENT PREPARATION SERVICES
561421	TELEPHONE ANSWERING SERVICES
561422	TELEMARKETING BUREAUS
561431	PRIVATE MAIL CENTERS
561439	OTHER BUSINESS SERVICE CENTERS (INCLUDING COPY SHOPS)
561440	COLLECTION AGENCIES
561450	CREDIT BUREAUS
561491	REPOSSESSION SERVICES
561492	COURT REPORTING AND STENOTYPE SERVICES
561499	ALL OTHER BUSINESS SUPPORT SERVICES
561510	TRAVEL AGENCIES
561520	TOUR OPERATORS
561591	CONVENTION AND VISITORS BUREAUS
561599	ALL OTHER TRAVEL ARRANGEMENT AND RESERVATION SERVICES
561611	INVESTIGATION SERVICES
561612	SECURITY GUARDS AND PATROL SERVICES
561613	ARMORED CAR SERVICES
561621	SECURITY SYSTEMS SERVICES (EXCEPT LOCKSMITHS)
561622	LOCKSMITHS
561710	EXTERMINATING AND PEST CONTROL SERVICES
561720	JANITORIAL SERVICES
561730	LANDSCAPING SERVICES
561740	CARPET AND UPHOLSTERY CLEANING SERVICES
561790	OTHER SERVICES TO BUILDINGS AND DWELLINGS
561910	PACKAGING AND LABELING SERVICES
561920	CONVENTION AND TRADE SHOW ORGANIZERS
561990	ALL OTHER SUPPORT SERVICES
562111	SOLID WASTE COLLECTION
562112	HAZARDOUS WASTE COLLECTION
562119	OTHER WASTE COLLECTION
562211	HAZARDOUS WASTE TREATMENT AND DISPOSAL
562212	SOLID WASTE LANDFILL
562213	SOLID WASTE COMBUSTORS AND INCINERATORS

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
562219	OTHER NONHAZARDOUS WASTE TREATMENT AND DISPOSAL
562910	REMEDIATION SERVICES
562920	MATERIALS RECOVERY FACILITIES
562991	SEPTIC TANK AND RELATED SERVICES
562998	ALL OTHER MISCELLANEOUS WASTE MANAGEMENT SERVICES
61	**EDUCATION SERVICES**
611110	ELEMENTARY AND SECONDARY SCHOOLS
611210	JUNIOR COLLEGES
611310	COLLEGES, UNIVERSITIES, AND PROFESSIONAL SCHOOLS
611410	BUSINESS AND SECRETARIAL SCHOOLS
611420	COMPUTER TRAINING
611430	PROFESSIONAL AND MANAGEMENT DEVELOPMENT TRAINING
611511	COSMETOLOGY AND BARBER SCHOOLS
611512	FLIGHT TRAINING
611513	APPRENTICESHIP TRAINING
611519	OTHER TECHNICAL AND TRADE SCHOOLS
611610	FINE ARTS SCHOOLS
611620	SPORTS AND RECREATION INSTRUCTION
611630	LANGUAGE SCHOOLS
611691	EXAM PREPARATION AND TUTORING
611692	AUTOMOBILE DRIVING SCHOOLS
611699	ALL OTHER MISCELLANEOUS SCHOOLS AND INSTRUCTION
611710	EDUCATIONAL SUPPORT SERVICES
71	**ARTS, ENTERTAINMENT, AND RECREATION**
711110	THEATER COMPANIES AND DINNER THEATERS
711120	DANCE COMPANIES
711130	MUSICAL GROUPS AND ARTISTS
711190	OTHER PERFORMING ARTS COMPANIES
711211	SPORTS TEAMS AND CLUBS
711212	RACETRACKS
711219	OTHER SPECTATOR SPORTS
711310	PROMOTERS OF PERFORMING ARTS, SPORTS, AND SIMILAR EVENTS
711320	PROMOTERS OF PERFORMING ARTS, SPORTS, AND SIMILAR EVENTS
711410	AGENTS AND MANAGERS FOR ARTISTS, ATHLETES, ENTERTAINERS,
711510	INDEPENDENT ARTISTS, WRITERS, AND PERFORMERS
712120	HISTORICAL SITES
712130	ZOOS AND BOTANICAL GARDENS
712190	NATURE PARKS AND OTHER SIMILAR INSTITUTIONS
713110	AMUSEMENT AND THEME PARKS
713120	AMUSEMENT ARCADES
713290	OTHER GAMBLING INDUSTRIES
713910	GOLF COURSES AND COUNTRY CLUBS
713930	MARINAS

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
713990	ALL OTHER AMUSEMENT AND RECREATION INDUSTRIES
72	**ACCOMODATION AND FOOD SERVICES**
721211	RV (RECREATIONAL VEHICLE) PARKS AND CAMPGROUNDS
721214	RECREATIONAL AND VACATION CAMPS (EXCEPT CAMPGROUNDS)
722330	MOBILE FOOD SERVICES
81	**OTHER SERVICES, EXCEPT PUBLIC ADMINISTRATION**
811111	GENERAL AUTOMOTIVE REPAIR
811112	AUTOMOTIVE EXHAUST SYSTEM REPAIR
811113	AUTOMOTIVE TRANSMISSION REPAIR
811118	OTHER AUTOMOTIVE MECHANICAL AND ELECTRICAL REPAIR AND MA
811121	AUTOMOTIVE BODY, PAINT, AND INTERIOR REPAIR AND MAINTENA
811122	AUTOMOTIVE GLASS REPLACEMENT SHOPS
811191	AUTOMOTIVE OIL CHANGE AND LUBRICATION SHOPS
811192	CAR WASHES
811198	ALL OTHER AUTOMOTIVE REPAIR AND MAINTENANCE
811310	COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT (EXCEP
811411	HOME AND GARDEN EQUIPMENT REPAIR AND MAINTENANCE
812191	DIET AND WEIGHT REDUCING CENTERS
812210	FUNERAL HOMES AND FUNERAL SERVICES
812220	CEMETERIES AND CREMATORIES
812930	PARKING LOTS AND GARAGES
92	**PUBLIC ADMINISTRATION**
921110	EXECUTIVE OFFICES
921130	PUBLIC FINANCE ACTIVITIES
921140	EXECUTIVE AND LEGISLATIVE OFFICES, COMBINED
921150	AMERICAN INDIAN AND ALASKA NATIVE TRIBAL GOVERNMENTS
921190	OTHER GENERAL GOVERNMENT SUPPORT
922110	COURTS
922120	POLICE PROTECTION
922140	CORRECTIONAL INSTITUTIONS
922150	PAROLE OFFICES AND PROBATION OFFICES
922160	FIRE PROTECTION
922190	ALL OTHER JUSTICE, PUBLIC ORDER, AND SAFETY ACTIVITIES
923110	ADMINISTRATION OF EDUCATION PROGRAMS
923120	ADMINISTRATION OF PUBLIC HEALTH PROGRAMS
923130	ADMINISTRATION OF HUMAN RESOURCE PROGRAMS (EXCEPT EDUCAT
924110	ADMINISTRATION OF AIR AND WATER RESOURCE AND SOLID WASTE
924120	ADMINISTRATION OF CONSERVATION PROGRAMS
925110	ADMINISTRATION OF HOUSING PROGRAMS
925120	ADMINISTRATION OF URBAN PLANNING AND COMMUNITY AND

TABLE A-1. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE DRAFT PROPOSED HEAT-RELATED ILLNESS RULE (N = 391 INDUSTRIES AT 6-DIGIT NAICS LEVEL)	
	RURAL
926110	ADMINISTRATION OF GENERAL ECONOMIC PROGRAMS
926120	REGULATION AND ADMINISTRATION OF TRANSPORTATION PROGRAMS
926130	REGULATION AND ADMINISTRATION OF COMMUNICATIONS, ELECTRI
926140	REGULATION OF AGRICULTURAL MARKETING AND COMMODITIES
926150	REGULATION, LICENSING, AND INSPECTION OF MISCELLANEOUS C
927110	SPACE RESEARCH AND TECHNOLOGY

HRI Upper Bound SBEIS Estimates (in Dollars)

Size of Business	Daily Costs per FTE				Ar
	ID Temp	Prevent	Water	Respond	
50 or fewer FTEs	2.20 (n=31)	6.83 (n=38)	2.48 (n=92)	5.78 (n=20)	
51 or greater FTEs	1.48 (n=3)	3.15 (n=4)	0.33 (n=13)	0.74 (n=5)	
Total Number of Respondents (n)	34	42	105	25	
How many X's greater is cost for small businesses?	**1.5**	**2.2**	**7.5**	**7.8**	

HRI Lower Bound SBEIS Estimates (in Dollars)

Size of Business	Daily Costs per FTE				Ar
	ID Temp	Prevent	Water	Respond	
50 or fewer FTEs	0 (n=368)	0 (n=369)	0 (n=320)	0 (n=361)	
51 or greater FTEs	0 (n=46)	0 (n=44)	0 (n=40)	0 (n=45)	
Total Number of Respondents (n)	414	413	360	406	
How many X's greater is cost for small businesses?	**0**	**0**	**0**	**0**	

Note: all estimates include the median reported cost. For ID temp, prevent, water, and respond, upper bound estimates inc respondents who reported that a given component of the proposed HRI rule would cost "more" while lower bound estimate who reported it would cost less, the same, or more. For training, upper bound includes all respondents' estimates of future while lower bound includes only the cost estimates for those who said they were *not* providing water currently.

PRELIMINARY HEAT-RELATED ILLNESS (HRI) COST-BENEFIT AND LEAST BURDENSOME ALTERNATIVE ANALYSIS

WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES
JANUARY 14, 2008

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The Division of Occupational Safety and Health (DOSH) of the Washington State Department of Labor & Industries (L&I) is proposing a new rule under chapter 296-62-095 of the Washington Administrative Code (WAC) section that will govern Heat-Related Illness in the Outdoor

Environment. The overarching scope and purpose of the proposed rule is set forth in WAC 296-62-09510, which reads as follows:

The provisions of this rule apply to all employers with one or more employees performing work in an outdoor environment. It requires employers to implement workplace practices designed to reduce to the extent feasible the risks of heat-related illness resulting from outdoor exposure to temperature, humidity, and other environmental factors, or any combination thereof.

The following cost-benefit and least burdensome alternative analysis, prepared in compliance with the Administrative Procedure Act (APA), RCW 34.05.328, spells out the probable costs and benefits of the draft proposed rule set forth under WAC 296-62-095 and provides an estimate of the rule's net benefits for Washington employees and businesses, as well as for the Department and society more generally. In particular, the following rule provisions were analyzed to determine the rule's likely net benefit:

- WAC 296-62-09530, Employer responsibility
- WAC 296-62-09540, Drinking water
- WAC 296-62-09550, Responding to signs and symptoms of heat-related illness
- WAC 296-62-09560, Information and training

This analysis is organized as follows: (1) Introduction, (2) Assessing Costs, (3) Assessing Benefits, (4) Least Burdensome Alternatives, (5) Conclusions, and (6) Limitations.

1. INTRODUCTION

1.1. STATEMENT OF THE PROBLEM

In the absence of appropriate prevention and control measures, Washington workers exposed to high ambient temperatures are at increased risk of suffering from heat-related illness, dehydration, and heat stroke. These health conditions are costly for workers and their families, for employers, and for the State of Washington in general. For workers and their families, the costs of these conditions can come in the form of pain and suffering from mild to severe illness, long-term health problems, hospitalization, and sometimes even death. For employers, these health conditions can lead to significant declines in on-the-job performance and productivity among dehydrated workers, even when heat stress has not been identified or diagnosed (Kenefick & Sawka, 2007; Cheuvront, et al., 2005; Wasterlund et al., 2004; Department of the Army and Air Force, 2003; Below et al., 1995; Gopinathan et al., 1988; Craig & Cummings, 1966; Pitts, et al. 1944). Employers also bear the brunt of the indirect costs associated with workplace injuries and illnesses (e.g., responding to a medical emergency, work stoppage among co-workers, and reporting and investigation costs) (see Washington State Department of Labor and Industries, 2000). For the State of Washington, the costs of these heat-related health conditions relate not only to administering Workers' Compensation claims, but in some cases also to the loss of life and its effect on local communities. All of these costs are only compounded by the likely underreporting of heat-related illness to the Workers' Compensation system (Fan, et al., 2006; Rosenman, et al., 2000; Morse, et al., 1998; Oregon Department of Consumer and Business Services, 2004), as some of the burden of these health conditions may inadvertently fall to workers, their families, and alternative safety nets, both public and private.

1.2. History of the Proposed Rule

After the death of a farm worker in the summer of 2005 due to heat-related illness, Columbia Legal Services made a request to the Director of the Department of Labor and Industries to investigate heat-related illness hazards in the workplace. While evaluating the need for a permanent heat-related illness rule in 2006, L&I adopted an emergency heat-related illness rule on May 23, 2006 that amended WAC 296-62-09013 to clarify that employers were responsible for protecting workers from both outdoor and indoor environmental heat. The Department chose to adopt an emergency rule rather than a permanent rule at that time to allow for a thorough analysis of the policy options. This emergency rule became effective on June 1, 2006 and was accompanied by an educational and awareness campaign. After substantial input from stakeholders and receiving a petition for permanent rulemaking from Columbia Legal Services on January 26, 2007, the Department created a new emergency rule that was adopted on June 5, 2007 and became effective June 18, 2007. That emergency rule is similar in content and structure to the draft proposed permanent rule reviewed as part of this analysis. However, the proposed rule does include some changes made after substantial consultation with stakeholders from both the labor and business communities across the state, as well as with technical experts both within and outside of L&I.

2. ASSESSING COSTS

2.1. Cost Survey Methodology

As part of both the cost-benefit analysis and the Small Business Economic Impact Statement (SBEIS), L&I estimated the probable costs of compliance for Washington employers, as well as any costs to society more generally, if the draft proposed heat-related illness permanent rule were adopted. Primarily, the assessment of quantifiable costs occurred in three steps discussed below: (1) developing and implementing a sampling strategy, (2) designing and sending out a cost survey to employers, and (3) estimating the monetized costs for the various components of the draft proposed rule that may have an economic impact. In addition, the Department consulted with professional staff internally to clarify how the proposed rule will be enforced and to obtain what it believes to be more realistic cost estimates than those provided through the survey data.

2.1.1. Sampling Plan

The development of the sampling strategy for the Heat-Related Illness cost survey required an unusual amount of care due to the nature of the injuries and illnesses the rule seeks to prevent. That is, while it might seem appropriate to sample those industries known to have the highest number of heat-related illness Workers' Compensation claims[48], heat-related illness may be an underlying cause for primary diagnoses related to accidents. In other words, these accident-related injuries may really be a function of heat-related illness symptoms workers were experiencing prior to the accident (such as dizziness, or orthostatic intolerance, Kenefick and Sawka, 2007) (see State of Washington Office of the Governor, 2007). For instance, in their study of heat-related illness among workers in Italy, Morabito and colleagues (2006) note that "some occupational injuries might be induced by a previous lipothymia or loss of consciousness due to environmental factors, but discharge data only

[48] See Table IIb on p. 6 of Bonauto, et al. (2007) for a list of HRI claims in Washington State from 1995-2005 broken out by industry sector at the 6-digit NAICS level.

contains the ICD classification of traumatism in the principal diagnoses."[49] While more suggestive than conclusive, the authors also found that, in each of the study months, the greatest number of reported work-related accidents happened on days when the daytime apparent temperature was between 76.6 and 81.5 degrees Fahrenheit (Morabito, et al., 2006). This is consistent with Ramsey, et al.'s (1983) findings that unsafe work behavior increases in warmer temperatures. The authors also report findings from previous studies suggesting a relationship between environmental temperature and injury rates, whereby injuries are more common at both colder and warmer temperatures (that is, the relationship between the two variables is that of a U-shaped curve).

In addition, L&I assumes that exposure to heat-related illness hazards may be slightly more evenly distributed across industries and businesses employing outdoor employees than the Workers' Compensation claims rates by industry would suggest. For one thing, the heat-related illness claims reported by Bonauto and colleagues (2006) and broken out by industry were representative of *both* outdoor and indoor workers (though 78.5% were outdoor workers). As a result, L&I chose to develop a sampling strategy that accounts for the possibility that certain industries may actually have outdoor employees exposed to heat-related illness hazards in greater numbers than their claims rates would suggest. This could happen, for example, in industries where HRI is more likely to be the first and perhaps undiagnosed of what are really two workplace injuries or illnesses (e.g., in industries where HRI may be more likely to result in a workplace accident). Another example of when one might expect true *exposure* rates to be concealed by an examination of *claims* rates is when particular industries have already been taking steps all along to prevent heat-related illness such that exposure is actually greater than their HRI claims rates would suggest. This is all to say that the sampling frame was developed based on the industries in which workers were thought to be exposed to HRI hazards rather than on Workers' Compensation claims data.

Another consideration was the side of the state in which employers were located. This was important given that a disproportionate share of heat-related illness claims occur in Eastern Washington. That is, while Eastern Washington represents only 22 percent of the employed population, it represents 47 percent of HRI claims (Bonauto, et al., 2006). However, this factor was ultimately not considered in the development of the sampling frame, because employees in Western Washington are in some ways at more risk even though they may face less overall exposure to HRI hazards. For example, a recent HRI fatality occurred in Western Washington in the city of Vancouver, which has more variation in temperature during the summer months. This temperature variation may subject employees in Western Washington to *greater* risk in some sense, in that they are less likely to be acclimatized to the heat, a factor that is known to predispose individuals to HRI (Bonauto, et al., 2007; Bonauto, et al., 2006; Morabito, et al., 2006; Epstein, et al., 1999; Bricknell, 1996; Gardner, et al., 1996).

The survey sampling strategy involved the following three steps, each of which will be reviewed in more detail below: (1) determining the appropriate sample size, (2) building the appropriate sampling frame based on likely exposure of outdoor employees to HRI hazards, and (3) using proportionate stratified random sampling to determine the businesses within each industry sector that would be selected.

2.1.2. SAMPLE SIZE

[49] Note that ICD refers to the International Classification of Diseases published by the World Health Organization.

In determining the appropriate sample size needed to get valid estimates for the cost of compliance with the draft proposed HRI rule, L&I considered a couple of factors; namely, the desired level of confidence and uncertainty in the cost estimates, and the anticipated response rate. Each of these is discussed below.

The Department first considered the level of confidence and uncertainty it was willing to accept in order to ensure the most rigorous and statistically valid compliance cost estimates. L&I chose conventional levels of 95 percent confidence with ±5 percent uncertainty. It next considered the size of the business account population from which the sample would be selected. After screening out business locations that had closed accounts, L&I pulled addresses and industry information for 230,715 physical locations of Washington businesses from its administrative Data Warehouse (refreshed as of April 3, 2007).

Given that the Department did not know key population characteristics (mean, variance, and standard deviation) with respect to each parameter of interest, the desired sample size was estimated based on a formula that assumes an infinitely large population.[50] It uses the most conservative estimate of probability (p = .5), as well as the desired precision (95% confidence level; ±5% uncertainty). One can make similar calculations using the actual known population size (N = 230,715 for all physical locations open and active as of April 3, 2007), but will get essentially the same result for the desired sample size (n = 384 using known N[51] as opposed to n = 385 assuming an infinitely large N).

In determining the requisite sample size, L&I also took into account the relatively low response rates it has historically reported for surveys to businesses regarding the costs of proposed rulemaking.[52] This was done by reviewing a number of economic analyses and rulemaking files involving surveys conducted over the past decade. Table A-1 in the appendix presents a summary of the findings, including sample size, sampling methods, number of respondents, and response rate for each survey. Of the nine self-administered, mail-in cost surveys included in this review, sample sizes ranged from 323 to 5,644 and response rates ranged from 8% to 25%.

The final determination of sample size employed the above information to attain a desired sample size given that: (1) population parameters with respect to cost are unknown, (2) the desirable confidence level is 95% (with +/- 5% uncertainty), and (3) response rates for surveys of this nature tend to range from 8 to 25 percent. It also took into account the fact that the sampling frame is perhaps not as efficiently targeted as L&I would have liked given the somewhat elusive nature of heat-related illness exposure noted earlier (methods for deriving the sampling frame are discussed below). L&I chose a sample size of 5,500 because it is sufficient to yield statistically significant cost estimates, assuming a 7 percent response rate and conventional levels for statistical validity. That is,

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[50] $n = [p*q]/[.05/1.96]^2$

[51] Sample size for known population size calculated using an online sample size calculator available at the following website: http://www.surveysystem.com/sscalc.htm.

[52] Reasons for the relatively low response to the regulatory cost surveys are unknown; however, L&I assumes that some or all of the following factors may be at play: (1) employers may not see any clear benefit to participating, (2) due to the ever-changing nature of businesses and the potential lag time in updating our administrative database, samples may include incorrect and outdated contact information, and (3) despite L&I's assurances to the contrary, employers may fear that the information they provide will be used against them in the form of citations, fines, or other enforcement measures.

if assumptions were to hold, one would expect a returned sample size of 385, which would allow for statistically valid estimates of the overall cost of compliance.

Importantly, there is likely non-response bias in terms of who responded to the survey and who did not. Namely, employers most likely to be impacted by the rule are also the most likely to respond. This issue is discussed in section 6.2. at the end of the document.

2.1.3. SAMPLING FRAME

In building the sampling frame from which businesses would be randomly selected, L&I began with the total population of all open and active physical locations in the Department's administrative database, including both State Fund and Self-Insured employers. It then excluded industries from the sampling frame in three phases. First, industry sectors at the 2-digit North American Industry Classification System (NAICS)-level were eliminated if they were unlikely to have any outdoor employees exposed to HRI hazards. Likewise, industries were eliminated at the 3- and then 6-digit NAICS-levels if they were unlikely to have outdoor employees exposed to HRI hazards (see Figure A-1 in the appendix for a complete list of industries excluded from the sampling frame). Given the broad scope of the rule and the nature of heat-related illness hazards for outdoor workers, it was not possible to zero in on the exact industries likely to be impacted by this draft proposed rule. Instead, the sampling frame reflects those specific industries thought to be most likely to have outdoor workers. It is important to note that businesses in industries not included in the sampling frame will still need to be in compliance with the proposed heat-related illness rule if it is adopted and they employ outdoor workers in the summer months. Similarly, businesses in industries included in the sampling frame will not be subject to the rule if they do not employ any outdoor workers.

2.1.4 PROPORTIONATE STRATIFIED RANDOM SAMPLING

In conjunction with determining the desired sample size and the appropriate sampling frame, L&I also considered which sampling method would yield the most accurate cost estimates. The objective was to randomly select employers so industries that received surveys were represented proportionate to their share of the overall sampling frame. Given this, L&I employed proportionate stratified random sampling by industry. This method allowed the Department to create strata at the industry-level that were assumed to be somewhat homogenous with respect to the likely costs of implementing the draft proposed heat-related illness rule, thus helping to reduce sampling variability (Pedhazur & Schmelkin, 1991: 331). To do this, L&I first determined what percentage of the overall sampling frame (N = 87,351) each 2-digit industry sector comprised. It then determined the sample size needed for each industry by multiplying that industry's proportion of the sampling frame by the overall desired sample size (n = 5,500). To see the resulting sample sizes by industry, please refer to Table A-2 in the appendix.

In order to randomly select businesses, L&I used an online random number generator (http://www.random.org) to obtain a list of random numbers for each industry that was the exact number of the sample size for each industry. Next, the Department numbered each business within each industry from 1 to n and used Vlookup in Excel to "grab" each business account that corresponded to a randomly generated number. This process of selection was not perfect, however, as the list of random numbers drew randomly *with replacement* such that there were some duplicate

random draws. As a result, one of each duplicate pair was removed, as well as any accounts for which the Department did not have a mailing address.[53] In the end, 5,206 surveys were sent to employers, rather than the 5,500 originally planned. This is because 142 businesses in the randomly selected lists were found to be missing physical location addresses or to be closed. In addition, another 152 were one of a duplicate randomly drawn pair that was eliminated from the list. (Please see Table A-2 in the appendix).

2.1.5 SURVEY

The cost survey sent to randomly selected businesses provided respondents with information about the existing standard (if one indeed existed) and explained what the proposed rule required and how this would affect the employer. In order to establish a baseline, the survey then asked respondents to answer questions about what they were doing in 2006 to be in compliance with existing standards (such as WAC 296-800, Safety and Health Core Rules). If, in 2006, respondents were *not* already complying with elements that are part of the proposed rule, the survey asked what they would do to be in compliance if the rule were adopted. It also asked whether there would be an additional cost to their business and, if so, how much it would likely be (please see Figure A-2 in the appendix for a copy of the survey that was sent).

The survey was sent by mail to randomly selected business ("Attn: business safety manager") on June 4th, 2007. Given that it asked respondents to estimate current and future costs, it was important to clarify that current costs referred to costs in the absence of any HRI rule. Since the HRI emergency rule for the summer of 2007 took effect at around the same time as the survey was disseminated to the randomly selected businesses,[54] L&I sent a follow-up postcard the week of June 11th, 2007 indicating that survey respondents should think of their "current" activities and associated costs as what they were doing *prior* to the emergency rule taking effect. This is the best tool L&I had to communicate to employers the assumptions they should make in order to arrive at the best baseline cost estimates possible. That said, it is noteworthy that many of the survey recipients that called L&I's economic analyst were actually not familiar with the emergency rules from 2006 or 2007 and also had not heard about the draft proposed permanent rule.

2.1.6 RESPONSE RATE

Between June 11 and July 13, 2007, L&I received 804 completed surveys from businesses of the 5,206 surveys sent. Of those 5,206 sent, 720 are presumed to have been undeliverable because the follow-up postcard was "returned to sender".[55] In addition, 9 survey recipients contacted L&I by mail, email, or phone to inform the Department that their businesses had either closed or were not operational in 2006 (the year for which costs were to be estimated). All told, the response rate for

[53] Surveys were sent to the physical location address rather than the quarterly reporting address, the latter of which is used for accounting purposes. This was done to ensure that the person best able to answer questions pertaining to a particular site's costs would be the person receiving the survey. However, this created some problems in survey delivery. For example, some businesses appear to use a P.O. Box for mailing and do not receive mail at their physical location. Some of these businesses did not receive the survey but should have.

[54] An emergency rule pertaining to heat-related illness in the outdoor environment was adopted on June 5, 2007 and became effective June 18, 2007.

[55] This is approximate and quite likely an underestimate. Some businesses contacted the Department to say they received the postcard but not the survey and L&I re-sent them the survey. Presumably some employers received the postcard but not the survey and did not contact the Department to request the survey.

completed surveys, of the 5,206 sent, was 15% (804 out of 5,206) and the response rate for those presumed to have been successfully delivered to active accounts was 18% (804 out of 4,477). Of the 804 respondents, 483 businesses (or 60%) reported that they had employees who worked outdoors in 2006. Respondents were instructed to only continue answering the survey if they had outdoor employees in 2006, so it is important to note that the 483 "useable" surveys represent 9% of the total surveys sent, 11% of those presumed to have been successfully delivered, and 60% of the 804 completed surveys that L&I received (please see Table A-5 in the appendix, which accounts for all the surveys sent).

Of the 483 survey respondents who had outdoor employees in 2006, response rates by industry varied some from what L&I would have expected based on the sampling frame shown in Table A-2 in the appendix.[56] That said, some industry-specific response rates were roughly proportionate to the number of surveys sent to that industry. For example, the construction industry represented 37.5% of surveys sent and 40.6% of respondents with outdoor employees. Yet other industries appear to have been represented more (or less) heavily in the pool of respondents relative to the sampling plan. For example, the agriculture, forestry, fishing, and hunting industry represented about 10.5% of the sampling frame but 18.2% of respondents. This may suggest that this industry sector is more likely to have outdoor employees relative to other industries in the sampling frame. It is also worth noting that a relatively high proportion of respondents with outdoor workers fell into the "other" category (about 19.3%). This may be explained by the fact that some respondents likely did not think any of the industry categories presented as options on the survey adequately reflected the nature of their work (please refer to Tables A-3 and A-4 in the appendix for a detailed breakdown of response rate by industry).

Of the 483 respondents with outdoor workers in 2006, 433 supplied sufficient information to determine whether or not they were a small business. Of those 433, approximately 89% (385) were small businesses, defined in the Regulatory Fairness Act (RCW 19.85) as any business entity that has 50 or fewer employees. This is roughly comparable to the percentage of Washington businesses statewide that meet this definition (about 86%). In order to determine whether or not a business was small, the Department considered responses to two questions: (1) the reported number of full-time equivalents (FTEs) in 2006, and (2) the reported number of part-time hours temporary/seasonal or part-time workers worked in 2006. A calculation was then made to convert part-time hours to FTEs by dividing the total number of part-time hours reported for a given business by 2,080. FTEs and converted FTEs were then summed and small businesses were determined to be those in which the sum of these two fields was equal to or less than 50 FTEs. One caveat is that if respondents did not complete the question asking how many FTEs they had in 2006, they were not included as part of the 433 respondents supplying sufficient information. If, however, only the field for part-time annual hours was missing or a legitimate skip, the reported number of FTEs was used to determine if the business was small or not.

[56] Note the distinction in the definition of "industry" in the sampling frame as compared to the survey responses. Industry in the case of the sampling frame refers to the 2-digit North American Industrial Classification System (NAICS) industry sector. Industry in the case of the survey responses means the industry category presented on the survey that the respondent felt best described their firm's operations. Respondents may not have classified their businesses in the way that L&I employees trained in assigning NAICS codes to businesses may have, so there will likely be some natural discrepancy between the sampling frame and the surveys. For example, a disproportionate number of respondents classified themselves as "other," but upon reading the description they provided, it was apparent they should have been classified as another industry in the list provided to them.

2.2. QUANTIFIABLE COSTS[57]

The approach to estimating the upper bound cost of compliance is essentially the same across each provision in the proposed rule. First, the number of businesses overall assumed to be affected by the proposed rule is 60% of the 87,351 businesses in the sampling frame, or 52,411 employers. This is because 60% of survey respondents indicated that they had employees who worked outdoors in 2006. Second, for each rule provision for which a cost is estimated, the Department found the percentage of respondents with outdoor employees who (1) reported they were not already in compliance in 2006, (2) reported a provision would cost them "more" than they spent in 2006 if it were adopted, and (3) supplied a quantified cost estimate. The median cost for that group was then established. After determining that 72 was the median number of days statewide between May 1, 2006 and September 30, 2006 in which the temperature exceeded an 80 degree Heat Index, the median cost was then multiplied by 72 in cases where the cost estimate was provided in days in order to get an annualized estimate.[58] The annual median cost was then multiplied by the number of businesses assumed to be affected by a given component, which was calculated by extrapolating the percentage of respondents reporting a cost for that component to apply to the 52,411 employers assumed to have outdoor employees.

Given that there were some extreme outliers, the Department chose to use a measure of central tendency that did not let these outliers have a substantial effect on the estimate. The median is thought to be a more appropriate measure when data is skewed in one direction (Agresti and Finlay, 1997).

There are four important limitations of this method to note. First, it most likely overestimates the cost of compliance given that employers who had outdoor employees in 2006 had a much greater incentive to respond and are likely to be over-represented in the pool of respondents relative to their true share of the employer population. Secondly, L&I could only estimate costs using data from respondents who actually provided quantitative estimates. Thirdly, a small proportion of the sampling frame is likely to be independent contractors who do not have employees and who have not elected Workers' Compensation coverage for themselves. To check this, the Department queried its administrative Data Warehouse on August 20, 2007 and found that 39,201 of 177,708 active accounts (or 22%) were sole proprietors. The majority of these businesses would need to be in compliance with the proposed rule if they or

[57] Note that calculations for each of the costs described below were done in Excel. Numbers presented in this document as components of the calculation are rounded for ease of presentation; however, the Excel calculations use the full values. As a result, readers may not arrive at the same estimates by simply using the values presented here. Electronic versions of the Excel spreadsheets containing the full values and calculations are available upon request.

[58] Note that the draft proposed rule now provides six different temperature triggers based on the HRI hazards present (e.g., heavy clothing or lack of shade) rather than the single 80 degree Heat Index trigger considered in this analysis. While most employers will likely need to put in place protective measures when temperatures reach approximately 89 degrees Fahrenheit, the present analysis uses the 80 degree Heat Index trigger from a previous version of the proposed rule for simplicity. This results in a more conservative estimate of costs. That is, costs appear higher than they will likely be because the analysis assumes certain provisions will be in effect approximately 72 days rather than +/- 20 days each year, the latter of which reflects the approximate number of days statewide in 2007 in which the temperature exceeded 89 degrees Fahrenheit.

their employees worked outdoors and had Workers' Compensation coverage. However, 215 of these sole proprietors (or about 0.12% of the account population) were independent contractors who do not have employees and have not elected coverage for themselves. Nonetheless, they were not excluded from the sampling frame, meaning that the costs are applied to a slightly larger population than is likely to be impacted. Finally, and in a similar vein, the draft proposed rule changed after the survey data had already been collected so that it now does not apply to workplaces where there is only incidental exposure to an outdoor work environment. This suggests that the number of employers impacted by the rule is even smaller yet.

In keeping with convention, this cost-benefit analysis also includes quantitative lower bound cost estimates, reflecting some of the inherent uncertainty involved in predicting future costs. Given many of the aforementioned limitations with the upper bound cost estimates, as well as the difficulty in conveying to employers through a survey what the proposed rule will require, the Department believes that the lower bound cost estimates are likely to be more realistic. This is because these estimates were derived using assumptions made after consultation with several internal program staff. They included individuals with expertise in industrial hygiene, occupational health, economics, and enforcement. The lower bound cost estimates reflect what the Department anticipates businesses might spend when meeting minimal compliance standards.

2.2.1. IDENTIFYING & EVALUATING TEMPERATURE, HUMIDITY, & OTHER FACTORS

On the survey sent to employers, question 6 asked respondents whether they had put in place measures to identify and evaluate environmental factors and, if not, whether there would be a cost to do so if this proposed rule component were adopted. Approximately 9 out of the 483 respondents with outdoor workers (or 1.9%) indicated they had not put in place measures and there would be more of a cost to them to do so. The median cost they reported was $10, with cost estimates ranging from $2 to $500. One respondent who reported a cost of $500 was a clear outlier, as the next highest reported cost was $150. The Department did not eliminate this outlier, but if it had, the mean cost would become $36 and the median would remain $10.

Survey Questions 6, 6b, and 6c: Cost Per Day to Identify and Evaluate Environmental Factors (Employers Responding 'NONE' to Question 6 and 'MORE' to 6b)	
Mean	91
Standard Error	54
Median	**10**
Mode	10
Standard Deviation	162
Sample Variance	26195
Kurtosis	6
Skewness	2
Range	498
Minimum	2

Survey Questions 6, 6b, and 6c: Cost Per Day to Identify and Evaluate Environmental Factors (Employers Responding 'NONE' to Question 6 and 'MORE' to 6b)	
Maximum	500
Sum	817
Count	**9**
Confidence Level (95.0%)	124

To obtain the upper bound cost estimate for this component of the rule, L&I took 1.9% of 52,411 (the 60% of the original sampling frame estimated to have outdoor workers based on survey data). That number was then multiplied by the median cost of $10 to arrive at an estimated total cost to employers of $9,966 per day. This was multiplied by 120 days to arrive at an annual cost, assuming employers would need to comply with this particular rule component approximately four months out of the year. The total upper bound estimated cost for this proposed HRI rule component for Washington employers is $1,171,923 per year.

Lower Bound Estimate

To obtain a lower bound estimate for this component, the Department considered the minimal compliance standards proposed for identifying and evaluating temperature, humidity, and other environmental factors. For this estimate, L&I assumed that 1 FTE would spend approximately five minutes per day on hot days checking the temperature using whatever resources are readily available to them (e.g., the Internet, television news, radio, newspapers, etc.). The Department then took the 2006 median state wage of $16.73 (Watkins and Saunto, 2007) and loaded it with benefits equal to 30.2 percent of total compensation (U.S. DOL 2007)[59], to yield an estimated hourly wage of $23.97. This was then multiplied by 5 minutes per day since businesses are expected to spend about that much time checking the temperature, humidity, and other environmental factors. That number was then multiplied by the number of businesses likely effected based on the survey data (approximately 977). This total was then multiplied by 120 days to arrive at an annual estimate. Thus, the total lower bound estimated cost for this proposed HRI rule component for Washington employers is $233,140 per year.

2.2.2. UPDATING ACCIDENT PREVENTION PROGRAM

Under the employer responsibility section of the proposed rule (WAC 296-62-09540), businesses will be required to update their Accident Prevention Programs (APPs). The Department did not ask employers to estimate whether there would be a cost associated with this in the survey. In part, this is because employers are always required to update their APPs following a rule change, so this typically is not thought of as a cost. In addition, DOSH has made language available reflecting the proposed changes that employers can directly insert into their APPs. In light of both these factors, the Department believes it is unlikely employers will experience a new cost as a result of updating their APPs. Nevertheless, an in-house upper bound estimate is included in the analysis. This estimate was derived by including data from question 5 in the cost survey, which asked respondents

[59] Benefits include retirement and savings; life, health, and disability insurance benefits; legally required benefits such as Social Security, Medicare, unemployment insurance, and workers' compensation; and paid leave such as vacations, holidays, and sick leave (U.S. DOL, 2007).

the following: "Does your Accident Prevention Plan currently include steps to prevent heat-related illness?" Out of the 483 survey respondents with outdoor workers, 193 responded "no" to this question. For the upper bound estimate, the Department assumed that these employers would each have 1 FTE spend 1.5 hours reviewing the rule and updating their APPs accordingly. The median wage for Washington State loaded with 30.2% benefits ($23.97) was multiplied by 1.5 to arrive at a cost of approximately $35.95 per business. This was then multiplied by the 20,943 employers who are projected to need to revise their APPs if the proposed rule is adopted [(193/483)*(52,411)]. Finally, the Department multiplied the projected number of affected employers by $35.95 to arrive at an upper bound estimate for updating the APP of approximately $752,947.

2.2.3. Preventing, Controlling, and Correcting HRI Hazards

Upper Bound Estimate

Question 7 on the cost survey asked respondents whether they had put in place measures to prevent, control, and correct hazards related to heat-related illness and, if not, whether there would be a cost to do so if this proposed rule component were adopted. Approximately 11 out of the 483 respondents with outdoor workers (or 2.3%) indicated that there would be more of a cost to them to put these measures in place and they had not done so in 2006. The median cost they reported was $30, with cost estimates ranging from $10 to $1,000. The $1,000 estimate was clearly an outlier, as the next highest reported cost was $200 per day. The Department did not eliminate this outlier, but if it had, the mean cost would become $67 and the median cost would remain $30.

Survey Questions 7, 7b and 7c: Cost Per Day (in Dollars) to Prevent, Control, and Correct HRI Hazards (Employers Reporting 'NONE' to Question 7 and 'MORE' to 7b)	
Mean	151
Standard Error	87
Median	**30**
Mode	30
Standard Deviation	289
Sample Variance	83620
Kurtosis	9
Skewness	3
Range	990
Minimum	10
Maximum	1000
Sum	1665
Count	**11**
Confidence Level (95.0%)	194

To obtain the upper bound estimate, L&I took 2.3% of 52,411 and multiplied that number by the median cost of $30 to arrive at an estimated total cost to employers of $35,809 per day. L&I then multiplied $35,809 by 72 days to arrive at an annual cost. The total upper bound cost estimate for this rule component for Washington employers is $2,578,231 per year.

Lower Bound Estimate

To obtain a lower bound estimate for this component, the Department considered the minimal compliance standards proposed for preventing, controlling, and correcting HRI hazards. In many cases, the Department believes businesses will already have the necessary resources to comply with this proposed component of the rule. For example, employees may have ready access to shade or air-conditioning, rest breaks adjusted to minimize exposure to HRI hazards, work scheduled during the coolest parts of the day, and so on. Nevertheless, the Department chose to provide an estimate that assumes employers who had not put in place such measures in 2006 would choose to purchase a canopy or tarp as a means of providing a cooling area for employees. The Department selected 6 canopies through a Google Product Search online that were similar to what employers might purchase. Prices ranged from $24.99 to $189.98, with a mean value of $93.80. Adding 8.9% King County sales tax to the mean value yields an estimated fixed cost of $102.15. The Department added to this the assumption that one full-time equivalent employee would spend about ten minutes per day setting up and taking down the canopy or tarp on each day meeting or exceeding 80 degrees Heat Index. The fixed cost of the canopy and the recurring labor costs for set-up and take-down were then applied to 2% of the sampling frame with outdoor workers assumed to experience an additional cost if the rule is adopted (n = 1,194). All told, this yields a lower bound estimated cost of $465,928 for this component of the draft proposed rule.

2.2.4. PROVIDING DRINKING WATER

Upper Bound Estimate

Question 9 on the cost survey asked employers to estimate how many quarts of water per hour per employee they provided on hot days in 2006. Approximately 81 of the 483 respondents with outdoor workers (or 17%) reported that they had provided less than 1 quart in 2006 and also anticipated a cost to providing 1 quart of water per hour per employee if this proposed rule component were adopted. The median cost they reported was $25 per day, with cost estimates ranging from $0.50 to $800. There did not appear to be any obvious outliers, as there were two cost estimates above $700 in addition to the $800 maximum estimated cost.

Survey Questions 9, 11, and 11a: Cost Per Day (in Dollars) to Provide 1 Quart of Water Per Outdoor Employee Per Hour Per Day (Employers Currently Providing < 1 quart/employee/hour and Reporting 'MORE' to 11)	
Mean	81
Standard Error	18
Median	**25**
Mode	5
Standard Deviation	161
Sample Variance	25953
Kurtosis	11
Skewness	3
Range	800
Minimum	1

Survey Questions 9, 11, and 11a: Cost Per Day (in Dollars) to Provide 1 Quart of Water Per Outdoor Employee Per Hour Per Day (Employers Currently Providing < 1 quart/employee/hour and Reporting 'MORE' to 11)	
Maximum	800
Sum	6588
Count	**81**
Confidence Level (95.0%)	36

To obtain this estimate, L&I took 17% of 52,411, which is 8,789, and multiplied that number by the median cost of $25 to arrive at an estimated total cost to employers of $219,736 per day. This was then multiplied by 72 days to arrive at an annual cost. The total upper bound estimated cost for this rule component for Washington employers is $15,820,960 per year.

Lower Bound Estimate

To obtain a lower bound estimate for this component, the Department considered the minimal compliance standards proposed for providing 1 quart of water per employee per hour on days where the Heat Index exceeds 80 degrees. The Department made the simplifying assumption that employers would all provide water in the same manner, namely, by purchasing two insulated coolers and filling them once in the morning and again in the afternoon. An online Google Product Search yielded eight coolers of the type that employers might realistically purchase. The mean price of these coolers was $37.50, so the estimated cost is approximately $40.84 after adding 8.9% King County sales tax. Using the same loaded median wage noted earlier ($23.97), L&I arrived at an estimate that assumes 10 minutes of staff time twice per day to fill the coolers. These assumptions seem reasonable given that (1) the average number of reported FTEs for businesses providing less than 1 quart of water in 2006 who anticipated more cost was 12, and (2) a 5 gallon cooler holds approximately 20 quarts of water. Thus, if 12 employees worked for three hours with two 5 gallon coolers full of water in the morning and two refilled coolers for three hours in the afternoon, there would be sufficient water. These assumptions are reasonable for a lower bound estimate reflecting average cost, as employees are unlikely to each drink a full 1 quart per hour and it is also unlikely that the Heat Index would exceed 80 degrees for more than six hours in one day, with some exceptions. Together, these fixed and recurring costs yield a lower bound total estimate for water provision of $5,784,091.

2.2.5. Responding to Signs and Symptoms of Heat-Related Illness

Upper Bound Estimates

Question 13 on the cost survey asked respondents what, if anything, they were currently doing to cool employees experiencing the signs or symptoms of heat-related illness. Approximately 4 out of the 483 respondents with outdoor workers (or 1%) indicated they were not doing anything presently and that they would experience a cost if this component of the draft proposed rule were adopted. The median cost they reported was $50 per day, with cost estimates ranging from $15 to $3,400. One respondent's estimate of $3,400 was clearly an outlier, as the next highest estimate was just $75. Given the small number of respondents, removing this outlier had a significant effect on the median, shifting it from $50 to $25 per day. Removing this outlier also reduced the mean from $879 to $38. This, in combination with the Department's belief that $3,400 per day is far outside the

realm of possible costs for this rule component, led to the removal of this outlier in calculating the upper bound cost.

Survey Questions 13, 13b, and 13c: Cost Per Day (in Dollars) to Cool Employees Experiencing Signs and Symptoms of HRI (Employers Reporting 'NONE' to Question 13 and 'MORE' to 13b)	
Mean	38
Standard Error	19
Median	**25**
Standard Deviation	32
Sample Variance	1033
Skewness	2
Range	60
Minimum	15
Maximum	75
Sum	115
Count	**3**
Confidence Level (95.0%)	80

To obtain the upper bound estimate, L&I took a little less than 1% of 52,411, which is approximately 434, and multiplied that number by the median cost of $25 to arrive at an estimated total cost to employers of $10,851 per day. L&I then multiplied $10,851 by 72 days to arrive at an annual cost. The total upper bound estimated cost for this component of the proposed rule for Washington employers is $781,282 per year.

Lower Bound Estimate

In considering the lower bound cost estimate for this component, the Department assumed that there would be no additional cost to employers beyond what they will already be doing to prevent, control, and correct HRI hazards. For example, if employers set up a canopy to keep employees cool, there would be no additional cost to provide this canopy in responding to signs and symptoms of HRI. With respect to any other costs of responding to an incident of heat-related illness, WAC 296-800-14005 currently requires employers to have a plan in place to respond to emergencies. As such, the Department anticipates that there should not be a new cost from the provision to respond to HRI, since it is already a requirement. That is, employers currently are required to respond to heat-related illness just as they would to a sprained ankle; the proposed rule simply clarifies this. Thus, the total lower bound estimated cost for this component of the proposed rule is $0.

2.2.6. INFORMATION AND TRAINING

Upper Bound Estimate

Question 14 on the cost survey asked whether respondents were currently providing training on HRI. Approximately 164 out of the 483 respondents with outdoor workers (or 34%) answered "no" to question 14. The median cost to provide such training if the proposed rule were adopted was $400 per year, with estimates ranging from $0 to $15,000. Two

respondents anticipated future costs of HRI training at $15,000 per year, which the Department does not believe to be a realistic cost estimate. Nevertheless, these two outliers were not excluded from this analysis. Removing them would bring the mean to $861 and the range would become $0 to $6,400.

Survey Questions 14a and 15: Annual Cost (in Dollars) to Provide Training on the Prevention of Heat-Related Illness (Employers Reporting 'NO' to Question 14)	
Mean	1034
Standard Error	155
Median	**400**
Mode	100
Standard Deviation	1983
Sample Variance	3932238
Kurtosis	29
Skewness	5
Range	15000
Minimum	0
Maximum	15000
Sum	169530
Count	**164**
Confidence Level (95.0%)	306

To obtain the upper bound estimate, L&I took 34% of 52,411, which is 17,796, and multiplied that number by the median cost of $400 to arrive at an estimated total annual cost per business. The total upper bound cost estimate for this component of the proposed rule for Washington employers is $7,118,347 per year.

Lower Bound Estimate

More than likely, the upper bound estimate substantially overstates any new cost of this rule component given that the median cost reported for the 97 employers who were already providing training in 2006 was *half* of what the other employers anticipated paying if the rule is adopted ($200 compared to $400).

Survey Questions 14a and 15: Annual Cost (in Dollars) to Provide Training on the Prevention of Heat-Related Illness (Employers Reporting 'YES' to Question 14)	
Mean	1137
Standard Error	327
Median	**200**
Mode	0
Standard Deviation	3216
Sample Variance	10342692
Kurtosis	25

Survey Questions 14a and 15: Annual Cost (in Dollars) to Provide Training on the Prevention of Heat-Related Illness (Employers Reporting 'YES' to Question 14)	
Skewness	5
Range	22464
Minimum	0
Maximum	22464
Sum	110281
Count	**97**
Confidence Level(95.0%)	648

To obtain the lower bound estimate, L&I used the number of survey respondents with outdoor workers who reported they were not currently providing training on HRI prevention (164 out of 483, or 34%). L&I then took 34% of 52,411, which is 17,796, and multiplied that number by the median cost of $200 to arrive at an estimated total annual cost per business. The total lower bound cost estimate for this component of the proposed rule for Washington employers is $3,559,173 per year.

3. ASSESSING BENEFITS

In order to assess the probable benefits of the draft proposed HRI rule, L&I used data from the Department's administrative database. In addition, secondary analyses were conducted based on figures presented in a number of peer-reviewed journal articles. Finally, data from the cost survey was used to estimate the benefits of avoiding heat-related productivity and performances losses.

3.1. QUANTIFIABLE BENEFITS

3.1.1. PREVENTING INJURY AND ILLNESS

One anticipated benefit of the proposed rule is that it will reduce the number of workplace heat-related illnesses, injuries, and deaths. Not only is this benefit thought to be important for the outdoor workers exposed to heat-related illness hazards, but also to their employers and other workers, to the Department, and to society more broadly. This is because these illnesses, injuries, and deaths affect everyone. Not only do they inflict pain and suffering on the affected workers themselves, but their employers and other employees also are impacted in the form of higher Workers' Compensation premiums and rates. In addition, family members may be affected by having to temporarily (or in some cases permanently) step in to fill the role typically assumed by the injured worker. L&I and in turn Washington taxpayers, benefit by having fewer Workers' Compensation claims to administer. This is important given that the median costs for non-

compensable claims is higher for HRI State Fund claims relative to all types of State Fund claims (Bonauto, et al., 2006: 11).

Lower Bound Estimate

The best means the Department had for capturing and quantifying this anticipated benefit in dollars was to look at past Workers' Compensation (WC) claims costs associated with heat-related illness. The Safety & Health Assessment & Research for Prevention (SHARP) group within L&I provided data on Workers' Compensation claims costs for 1995-2005. SHARP queried the Department's administrative Data Warehouse and reviewed all State Fund claims with hospital and medical bills submitted and paid by the Department as of January 29, 2007 with an International Classification of Diseases (ICD)-9 code for HRI and dates of injury between January 1, 1995 and December 31, 2005.[60] Next, the researchers extracted the worker, physician, and employer electronic claim text fields describing the injury from the Report of Industrial Injury and Occupational Disease (RIIOD). Two physicians then independently reviewed the text fields in RIIOD to determine whether or not the claim appeared to be consistent with heat-related illness. In cases where the information in the text fields was inconclusive, the researchers reviewed the medical records for the claims in question. When the two reviewers did not initially agree, they would review the text fields and medical records again to arrive at a consensus (Bonauto, et al., 2007).

Once the researchers had determined that a case was indeed an HRI claim, they estimated costs on an annual basis using the "actuary incurred total" field. This provides an estimate of future expenses for open claims (by the case reserve unit), in addition to the actual paid to date costs for closed claims. It includes the costs of time loss, pensions, and medical treatment. In order to get a case reserve estimate of future expenses, a claim must be open for about nine months. In cases where the claim has already been closed, the actuary incurred total estimate is equivalent to the paid to date expenses for that claim and is unlikely to change unless the claim is reopened. One advantage to using this field, in combination with using medical and hospital bills, is that it allowed the researchers to capture costs for claims that may not have originally been thought to be heat-related illnesses, but were later determined to be so.

Outdoor HRI Workers' Compensation Claims in Washington State (1995-2005)		
Year	**# of Claims**	**Actuary Incurred Total ($)**
1995	24	14,807.52
1996	41	26,463.74
1997	19	16,564.94
1998	56	52,680.57
1999	30	16,904.69
2000	24	12,147.04
2001	32	53,433.07
2002	51	44,969.28

[60] ICD-9 codes used to query the claims reviewed included the following: 992.0 - Heat stroke and sunstroke; 992.1 - Heat syncope; 992.2 - Heat cramps; 992.3 – Heat exhaustion, anhydrotic; 992.4 - Heat exhaustion due to salt depletion; 992.5 – Heat exhaustion, unspecified; 992.6 – Heat fatigue, transient; 992.7 – Heat edema; 992.8 – Other specified heat effects; or 992.9 - Effects of heat and light, unspecified; and/or an ANSI Z16.2 type code 151 (Contact with general heat – atmosphere or environment).

Outdoor HRI Workers' Compensation Claims in Washington State (1995-2005)		
2003	37	38,661.97
2004	40	344,103.8
2005	23	181,129.7
Total Outdoor HRI Claims	**377**	
Actuary Incurred Total		**$801,866.3**

Using these figures over an 11-year period (1995-2005), the Department estimated the average annual cost of HRI claims as $72,897 per year. The mean was used as the measure of central tendency because any outliers with respect to costly claims were considered to be representative of what is likely to happen in the absence of the proposed rule. That is, while the median was used to reduce the influence of outliers in the case of the cost survey data, that was not deemed necessary or prudent in this case given that any outliers are clearly not likely to be caused by a bias in support of or opposition to the proposed rule. Rather, they may reflect important contextual factors, such as atypically extreme or variant weather conditions.

One limitation of using Workers' Compensation claims data is that a substantial proportion of workers experiencing work-related illness and injuries are known to not report these conditions to the WC system (Fan, et al., 2006; Rosenman, et al., 2000; Morse, et al., 1998; Oregon Department of Consumer and Business Services, 2004). For example, one cross-sectional study of unionized autoworkers in Michigan found that only 25% of workers diagnosed with Work-Related Musculoskeletal Disorders actually filed WC claims (Rosenman, et al., 2000).

For the purposes of estimating the likely extent to which work-related heat illnesses have not been reported to L&I, one study that is representative of the general working population in Washington State is perhaps most relevant (Fan, et al., 2006). Unlike other studies that have looked at underreporting of WC claims, this study was not specific to a certain type of injury/illness or industry. In addition, it employed data from a statewide 2002 telephone survey conducted through the Centers for Disease Control and Prevention (CDC) known as the Behavioral Risk Factor Surveillance System (BRFSS). Fan and colleagues (2006) used BRFSS data from 2,612 Washington respondents who were working adults at the time of the survey and who were not self-employed. Of those respondents, 321 reported having experienced (or been diagnosed as having) a work-related injury or illness in the past 12 months. Of those 321 respondents reporting a workplace injury or illness, 52% had filed Workers' Compensation claims. Of those who did *not* file a WC claim, 20% reported that their medical costs were paid for through another means (e.g., employer, public health insurance programs, etc.), while 80% reported that their costs were paid by private insurance, family, or there was no payment/no treatment.

In estimating the number of heat-related illnesses that likely *should* have been reported as WC claims, but were not, the Department incorporated Fan, et al.'s (2006) finding and assumed that only 50% of these claims were filed (note that this is consistent with how the Department handled WC claim underreporting with the Ergonomics Standard cost-benefit analysis; L&I, 2000). <u>This results in an estimated total monetized cost of heat-related illnesses and injuries of approximately $145,794</u>. The Department uses this as a conservative lower bound estimate for three reasons. First, Fan et al. (2006: 919) also found that workers in two industry sectors—agriculture/forestry/fishing and construction "ranked comparatively higher in reporting work-related injury or illness and lower in

WC claim filing." Similarly, the authors found that by occupation, "farming/forestry/fishing ranked the highest in reporting work-related injury or illness and second lowest in WC claim filing" (Fan, et al., 2006: 919). Both findings are significant given that, together, agriculture/forestry/fishing and construction made up almost 60% of the Department's survey respondents who reported having outdoor workers in 2006. Secondly, the authors reported that two factors that emerge in the peer-reviewed academic literature as being related to underreporting of WC claims are work in a non-manufacturing sector and work in small firms. Both factors are at play for workers exposed to heat-related illness in the outdoor environment. Finally, another study identified four problems with data on heat injury that are also relevant to this analysis: (1) data was only available for severe cases involving hospital admissions, (2) mild heat illnesses were not recorded despite their effect on performance, (3) medical providers did not have a good understanding of the criteria for diagnosing heat illness, and (4) because heat illnesses and fatalities occur seasonally, their apparent significance can be underestimated by a tendency to focus on annual rates of occurrence (Kerstein, et al., 1986).

In addition to the aforementioned factors, there are three limitations of the data that lead the Department to believe these benefits are underestimated: (1) it does not adjust the medical portion of the claims costs for annual medical inflation, which is about 5.5%, (2) it only includes State Fund, not Self-Insured claims, because ICD-9 codes are not available for the latter, and (3) by using time loss payments to estimate the amount of time workers were away from work, it underestimates lost wages, benefits, and taxes because compensable (time loss) claims do not compensate workers at 100% of their lost wages. And while the field in L&I's administrative data that was used to capture claims costs does include a reserve set aside for open claims, this is only relevant for three claims in this data. In all other cases, the claims are closed such that the reserve amount is equivalent to the total paid-to-date amount. In sum, the Department believes using WC claims data alone leads to a downwardly biased estimate of the benefits of preventing heat-related illness.

Upper Bound Estimate

An alternative to using administrative WC claims data to estimate cost is to take the average value of an injury for a blue-collar worker, which is estimated to be about $12,226 (Viscusi, 2004). This is then multiplied by the mean number of outdoor HRI claims (34.27) in a given year over the 11-year period from 1995 to 2005. This value was then doubled to account for underreporting, yielding a total estimated value of preventing heat-related illness of approximately $838,037. In many ways, this is a more comprehensive estimate than that provided by the claims data alone, as it reflects more than simply the cost to the Department of a Workers' Compensation claim for heat-related illness.

3.1.2. VALUE OF A STATISTICAL LIFE (VSL)

Another anticipated benefit of the proposed HRI rule is that it will help prevent work-related fatalities. Over the ten-year period from 1997 to 2006, there were four documented fatalities caused by heat-related illness. The Department considers each fatality to be an unnecessary tragedy, the scope and magnitude of which is impossible to quantify in dollars. Nevertheless, there is much precedent in both tort law and regulatory cost-benefit analyses for doing so as a means of either attempting to compensate for the loss, on the one hand, or to prevent future losses, on the other (Posner and Sunstein, 2005).

One particularly rigorous study improves upon previous attempts to estimate what economists refer to as the "Value of a Statistical Life," or VSL (Viscusi, 2004). The VSL is the value to a person of the incremental reduction in the risk of a fatality. Viscusi (2004) underscores the importance of estimating this value for different segments of the population, namely blue- and white-collar workers, as well as women and men. This is consistent with another recommendation from two legal scholars who suggest that government agencies should "…move in the direction of the more individuated approach of tort law. They should not use a uniform number per life saved" (Posner and Sunstein, 2005: 542). In differentiating in this fashion, Viscusi (2004) arrives at a VSL estimate for blue-collar male workers that ranges from $7.8 million to $9.7 million in 2000 dollars, with a mean value of $8.75 million. Since all four fatalities occurred to male workers, the male blue-collar VSL was deemed most appropriate. It is worth noting that this results in a more conservative estimate than using the female blue-collar VSL or taking the average between the two. This is because Viscusi (2004) found the female blue-collar worker VSL to be higher for women than for men, ranging from $8.8 million to $15.5 million in 2000 dollars, with a mean value of approximately $12.2 million. The upper bound estimate included in this analysis adjusts the male blue-collar worker VSL upward to $10,584,299 to account for inflation using an online calculator (http://data.bls.gov/cgi-bin/cpicalc.pl). This value is used as the estimate for preventing a heat-related fatality given that there was one heat-related illness each year in 2004, 2005, and 2006 that was so severe that the worker died. The lower bound estimate takes into account the fact that there were four fatalities in the past 10 years such that the mean number of fatalities per year is 0.4. Multiplying 0.4 by $10,584,299 yields a lower bound VSL estimate of $4,233,720.

3.1.3. Avoiding Indirect Costs Associated with Heat-Related Illness

Another anticipated benefit of the proposed rule is that businesses will likely avoid indirect costs associated with heat-related illness and related injuries. This is significant given that Corso and colleagues (2006: 214) estimate medical and productivity losses from injury in the U.S. at over $400 billion in 2000 alone. There is a growing understanding of the "business case" for preventing injury (see, for example, Sullivan, 2004), as well as precedent for measuring the indirect benefits to businesses from preventing workplace injury. In its 2000 Cost-Benefit Analysis of the Ergonomics Standard, L&I conducted an extensive review of this literature and established that the median ratio of indirect to direct costs of workplace injuries is 4.1 to 1. The present analysis uses this same ratio in estimating the indirect benefits. The lower bound estimate multiplies the value of preventing HRI using claims data alone by 4.1 to arrive at $597,755. The upper bound estimate applies the same methodology to the "value of an injury" estimate for preventing HRI to arrive at an estimated savings from avoided indirect costs of $3,435,951.

3.1.4. AVOIDING PRODUCTIVITY LOSS DUE TO WORKER DEHYDRATION

One important benefit of the proposed rule for Washington businesses is that it will likely reduce the amount of on-the-job productivity loss associated with heat-related illness. Indeed, a growing body of literature suggests that heat-related illness can result in lowered productivity, including reductions in performance and mental and physical functioning (Kenefick & Sawka, 2007; Cheuvront, et al., 2005; Wasterlund et al., 2004; Department of the Army and Air Force, 2003; Gopinathan et al., 1988; Craig & Cummings, 1966). For example, Craig and Cummings (1966: 673) report that heat stress and dehydration interact such that there is a reduction in endurance (Craig & Cummings, 1966: 673). In addition, one study found that both mental and physical functioning are reduced as a result of heat stress and dehydration (Department of the Army and Air Force, 2003). That report notes that "Heat Stress slows reaction time and decision times. Routine tasks are done more slowly. Errors of omission are common" (Department of the Army and Air Force, 2003: 8). The same study also found that, together, heat stress and moderate dehydration (defined as 4 percent of body weight loss) can reduce physical work capability among military personnel by approximately 50 percent when compared to the expected performance of fully hydrated soldiers in similarly temperate conditions (Department of the Army and Air Force, 2003: 8). In a further attempt to quantify the effects of heat stress and dehydration on productivity, Cheuvront and colleagues (2005) found that dehydration in temperate conditions led to a reduction in performance of between 2.7% and 12.6% (95% confidence interval). Moreover, reviews of the literature suggest that individuals working or exercising in ambient temperatures at or above approximately 86 degrees Fahrenheit are likely to experience decreases in performance endurance when dehydrated at 2% to 7% of body mass (Cheuvront et al., 2003; Shirreffs, 2005). Specifically, performance loss for such individuals ranges anywhere from 7% for those with some fluids (Below et al., 1995) to 60% for those with no fluids (Pitts et al., 1944).

Both the lower bound and upper bound estimates of the benefits to employers of avoiding performance and productivity losses associated with HRI make a few key assumptions based on available evidence. First, using HRI cost survey data, both estimates extrapolate to the 60% of the sampling frame assumed to have outdoor workers (n=52,411) based on the number of outdoor workers whose employers reported that they provided 0 quarts of water in 2006 (n=705) and the number of survey respondents who reported having outdoor workers (n=483). This is done using the following formula: X = [(52,411*705) / (483)] to arrive at an estimated 76,501 dehydrated workers. This number is then multiplied by 60% to take into account that not all of these workers will necessarily become dehydrated.[61] For example, some of these workers may be providing their own water in adequate supply so as to prevent dehydration. Secondly, the estimates use the 2006 median state wage of $16.73 (Watkins and Saunto, 2007) loaded with the aforementioned benefits equal to 30.2 percent of total compensation (U.S. DOL 2007) to arrive at an estimated measure of productivity that is $23.97 per hour for a fully hydrated worker. Third, both estimates assume that workers who are not provided with any fluids in the course of an 8 hour shift will be dehydrated for approximately 3 hours out of the 8. This is a conservative estimate given that one study has shown that workers doing easy work at the lowest category of warm weather will become dehydrated (defined as a 2% loss of body weight) after 4 hours of work (Montain, et al., 1999). That means that even workers doing easy work in mildly hot weather may be dehydrated for closer to 4 hours during

[61] This estimate comes from a study of miners which found that approximately 60% of workers arrive at work already dehydrated and their hydration status does not improve throughout the course of the day (Brake & Bates, 2003; Kenefick & Sawka, 2007).

an 8 hour shift (though assuming just 3 hours of dehydration allows for the possibility that they would work three hours and then re-hydrate during a lunch break[62]). Next, as with the cost estimates, the Department assumes that, on average, employers would be affected by the water requirement component of the proposed rule approximately 72 days out of a given year (based on the median number of days in 2006 in which the Heat Index was at or above 80 degrees). Finally, each estimate employs an estimate of how much productivity gain employers who currently provide *no* water might experience from ensuring that workers are provided with an adequate supply of water. The lower bound estimate uses what is perhaps the lowest productivity loss estimate reported in comprehensive reviews of the literature (7%). It is important to note that the study from which this estimate is drawn compared those given *some* fluids to those given adequate fluids (Below et al., 1995), so the productivity gains from adequate hydration are likely to be greater for Washington workers who have been provided *no* fluids. Nevertheless, assuming a 7% productivity loss associated with dehydration results in a lower bound estimate of approximately $16,634,535 in terms of the savings to Washington businesses from avoiding this loss. The upper bound estimate makes the same assumptions except for the fact that it assumes—still rather conservatively given estimates in the literature—that productivity loss would be approximately 15%. The upper bound estimate of the potential savings to employers from avoiding dehydration and associated productivity loss is $35,645,433.

There are several reasons why the Department believes these estimates to be considerably underestimated. First, these savings are only estimated based on the number of workers whose employers reported that they provided 0 quarts of water in 2006. Again based on survey data and using estimates for the number of outdoor workers whose employers are presumed to provide less than 1 quart of water (n=350,709 based on n=3,232 outdoor workers in survey were provided < 1 quart), the Department estimates that savings to employers would be approximately $76,258,846 (assuming 7% loss from dehydration). This is a reasonable estimate given that the 7% loss estimate came from a study in which individuals were provided with some fluid. Secondly, these estimates only account for productivity loss due to dehydration. Clearly there may also be some productivity loss that results from employees not being given adequate rest breaks in temperate conditions or being provided with opportunities to cool themselves down when overheated. Thirdly, both estimates assume that workers are adequately hydrated when they begin their day and that only 60% of them will actually become dehydrated. Finally, as alluded to above, Montain, et al. (1999) found that a 70 kilogram man doing easy work in category 1 heat (around 83 degrees – the lowest of temperate condition categories) sweats at a rate of about 0.3 quarts per hour. The authors find that even just doing *easy work*, this worker of average size would become dehydrated at 2% of body weight after 4 hours of work. This is significant because the estimate of savings to employers would likely be larger if we took into account the people doing more taxing physical labor or who were wearing heavy personal protective equipment.

[62] Note, however, that it can take many hours to fully re-hydrate from substantial water deficits. For example, some studies suggest that individuals dehydrated at about 4% of body weight may take more than 24 hours to fully re-hydrate through water and electrolyte replacement (Kenefick & Sawka, 2007; Nielson, et al., 1993; Morimoto, 1990).

3.2. QUALITATIVE BENEFITS

3.2.1. CLARIFICATION OF SAFE WORKPLACE REQUIREMENTS

One qualitative benefit of the rule is that, in the interest of worker safety, the proposed rule clarifies existing standards related to heat-related illness hazards so that employers know what is expected of them (State of Washington Office of the Governor, 2007). This translates to a benefit for both workers and employers. Outdoor workers benefit because they are more likely to be protected from heat-related illness hazards. Employers benefit because they will be less likely to receive citations and fines for violations of standards that they may not have realized applied to them. Moreover, employers will have a better understanding of what they need to do to be in compliance with health and safety standards related to HRI hazards. Ultimately, this will also save businesses, as well as the Department and tax payers, from the cost of appeals and legal fees resulting from citations that are challenged due to rule language that is unclear.

3.2.2. PAIN AND SUFFERING OF DECEASED WORKERS' FAMILY AND FRIENDS

In comparing the practice of monetizing the value of preventing and compensating fatalities in administrative regulations and tort law respectively, Posner and Sunstein (2005: 542) recommend that government agencies move in the direction of the courts and take into account factors such as dependents' pain and suffering, dread, emotional distress, and other general welfare losses. They suggest, "These changes would make a dramatic difference for administrative practice, replacing the crude current effort to use a single value for statistical lives." The authors note that courts tend to award "noneconomic" damages for the deceased's pain and suffering prior to his or her death, as well as the emotional distress and loss suffered by dependents (Posner and Sunstein, 2005: 543).

3.2.3. PREVENTING LONG-TERM HEALTH PROBLEMS

In the period from 1996 to 2005, the Department received 12 reports of workers in Washington State who were hospitalized due to severe heat-related illness and who filed Workers' Compensation claims. This is significant given that there are a number of long-term health problems that individuals might experience after having suffered from severe heat-related illness. For instance, one study found that Army personnel hospitalized for severe HRI had a 40% increased risk of mortality from other causes later in life when compared to personnel who had been hospitalized with appendicitis (Wallace et al., 2007). In addition, there is evidence to suggest that severe heat illness (and heat stroke, in particular) can cause acute and irreversible damage to the heart, lungs, kidneys, and liver which could in turn lead to cardiovascular disease, ischemic heart disease, chronic liver disease, and renal failure (Wallace et al., 2007; Garcia-Rubira et al., 1995; Rubel and Ishak, 1983). Moreover, not only are individuals who have experienced HRI likely to have reduced tolerance to heat for some period of time (Wallace et al., 2007; Shibolet et al., 1976), but there is some indication that even workers merely exposed to hot working environments exhibit excess levels of heat-related ischemic heart disease, cardiovascular disease, and non-malignant digestive disease (Wallace et al., 2007; Kark et al., 1997; NIOSH, 1977; Wild et al., 1995). In reviewing the benefits of intervening early to rapidly cool those experiencing severe HRI (Smith, 2005; Heled et al., 2004; Waters, 2001), Wallace and colleagues (2007) suggest that such efforts could limit end organ damage and thus prevent health complications and perhaps premature death.

3.2.4. PREVENTING WORK-RELATED INJURIES STEMMING FROM HRI

Another benefit of the proposed HRI rule is that it is likely to result in fewer workplace injuries that may result when employees are dehydrated, as they are likely to experience impairment in mental and physical functioning while in that state. For example, Kenefick and Sawka (2007) note that workers who are 4% dehydrated have been shown to experience a 23% decrease in reaction time (Gopinathan, et al., 1988), whereas individuals with blood alcohol content of 0.08 experience a decline in reaction time of just 17% (Mokowitz et al., 1985). Similarly, the same authors note that workplace accident rates tend to be highest in hot months (Kenefic & Sawka, 2007). This is in line with Morabito, et al.'s (2006) findings that, in Italy, the greatest number of reported workplace accidents happened on days when the apparent temperature was relatively high. It is also consistent with Ramsey and colleagues' (1983) review of previous studies that found a U-shaped relationship between environmental temperature and injury rates, where injuries occurred at higher rates in both cold and hot temperatures. Ramsey et al. (1983) advanced this research with evidence suggesting that unsafe behavior in the workplace increases at both cold and hot temperatures (once again, suggesting a U-shaped pattern with unsafe behavior on the y-axis and temperature on the x-axis). In sum, then, another benefit of the proposed rule is that it will likely result in fewer workplace injuries, in addition to the reductions in heat-related illness.

3.2.5. PROTECTING VULNERABLE WORKERS

One final benefit of the proposed HRI rule is that it will likely provide protection for certain marginalized workers who are particularly at risk for having the signs and symptoms of HRI go unnoticed. For example, a study of all the heat-related fatalities in North Carolina between 1977 and 2001 revealed that 45% of the workplace fatalities occurred among farm workers and that many of their deaths went unnoticed and without medical attention (Mirabelli & Richardson, 2005). This is in keeping with a recent heat-related fatality in Washington State in which fieldworkers discovered a fellow hops worker already dead and lying in the field. It is also consistent with Kovats et al.'s (2004) findings that isolated and vulnerable groups are likely to die from heat stroke before their illness is brought to medical attention. The authors recommend providing better information on the early symptoms of heat-related illness to isolated and vulnerable groups, something the proposed HRI rule promises to do.

4. LEAST BURDENSOME ALTERNATIVE ANALYSIS

The purpose of the least burdensome alternative analysis is to ensure that the agency is adopting the least burdensome rule that achieves the agency's objectives while considering the results of the cost-benefit analysis.

4.1. WAC 296-62-09510, SCOPE AND PURPOSE

The Department considered several alternatives for this rule and has determined that the draft proposed language is the least burdensome approach while still accomplishing the intent of the standard. The following sections review some of the more burdensome alternatives that the Department ultimately did not include in the proposed rule.

4.1.1. NO TRIGGER POINT

The proposed rule sets a temperature trigger point when employers are required to provide 1 quart of water per employee per hour and respond to signs and symptoms of heat-related illness (HRI). A more burdensome alternative would have instead had no trigger point and required every provision at all times when employees are exposed to the outdoors. This would have increased the costs for businesses by increasing the total number of days employers would have to carry additional water; prevent, control, and correct HRI hazards; and respond to the signs and symptoms of HRI.

4.1.2. HEAT INDEX TABLE

The proposed rule sets one variable (temperature) as the trigger. This information can easily be obtained by each employer. In a previous version of the rule, the Department used a heat index table and a trigger point of 80 degrees Heat Index to determine when additional components of the rule were required. This required the employer to determine two factors–temperature and relative humidity (RH). After establishing those environmental factors, then the employer would have to consult the heat index table to see if the temperature and RH resulted in an index of 80 or higher. The RH factor is not as readily accessible to employers as is temperature. The heat index trigger also would have required an additional step for employers, as they would have needed to identify the combined factors (temperature and RH) on a chart in order to determine if the trigger had been met.

4.1.3. TEMPERATURE AND RELATIVE HUMIDITY (RH) COMBINATION TRIGGER

The trigger point in the proposed rule is based upon the wet-bulb globe temperature (WBGT) as presented in the Threshold Limit Value book published by the American Conference of Governmental Industrial Hygienists (ACGIH). Research found that the dew point for Washington State during the summer months is somewhat consistent and could be held as a constant in the WBGT formula. If this research had not been completed, employers could have been required by an alternative version of the rule to obtain the RH in order to determine whether the trigger had been met. For example, one previous version of the proposed rule had a trigger point of 80 degrees Fahrenheit and 50% RH. The proposed rule removes that burden by only requiring the employer to determine the temperature on a given day.

4.1.4. WBGT MEASUREMENTS

Another alternative would have required that employers complete a WBGT assessment each day in the summer. While this approach is very accurate and supported by research, employers would have had to purchase or rent WBGT monitors and take the time to conduct the appropriate measurements at each job site. The proposed rule removes the burden of doing the WBGT measurements but still makes use of the science behind the WBGT method.

4.1.5. TABLE 1 VARIABLES

Table 1 of the proposed rule considers three types of worker clothing and whether work is being conducted in the sun or shade. This means there are just two factors the employer has to consider in assessing whether HRI hazards are sufficient to trigger various provisions in the proposed rule. The rule could have used more parameters, such as work conducted in partial sun and other types of

clothing. Doing so would have complicated Table 1 so that employers might have found it necessary to refer to the table each day. As it is presented in the proposed rule, Table 1 is simple enough that employers can easily remember the required temperature trigger points relevant to their business and the nature of their work. As a result, they will likely not need to continually refer back to the standard each time they assess outdoor environmental hazards.

4.1.6. EXEMPTING INCIDENTAL EXPOSURE

The intent of the proposed rule is to protect those workers who have exposure to heat in the outdoor environment and may develop heat-related illness due to that exposure. As a result, the proposed rule language includes a provision for and definition of "incidental exposure." Previous versions of the rule did not provide an exemption for incidental exposure. This would have increased the number of affected employers. Indeed, cost survey data was collected prior to this change in the proposed rule. This means cost estimates are overestimated, since they represent a broader number of employers than will actually be required to comply with the proposed HRI rule.

4.2 WAC 296-62-09530, EMPLOYER RESPONSIBILITY

4.2.1. PREVENTATIVE REST BREAKS

At one point, the Department considered adding language that would have required that additional preventative rest breaks be provided at specific times, durations, and frequencies when the trigger temperature was exceeded. As an alternative to this more prescriptive and burdensome approach, the proposed rule will allow employers themselves to determine when, for how long, and how often additional preventative rest breaks will be provided when HRI hazards are present. As a result, it is less likely that work flow will be interrupted unnecessarily or that excessive breaks will be taken.

4.2.2. MONITORING WATER INTAKE

The proposed rule requires additional water to be available and that employers encourage employees to drink adequate amounts of water. However, the proposed rule does *not* require that employers monitor the amount of water each employee actually consumes. This relieves employers of the burden of tracking the volume of water each employee consumed during the day and at what time.

4.3. WAC 296-62-09540, DRINKING WATER

4.3.1. APPLICATION

The proposed rule language could have required that employers have the specified amount of water (1 quart per hour per employee) available each day the employee may have been exposed to heat-related illness hazards. Instead, the proposed rule only requires that the specified amount of water be provided on the days the temperature trigger is met or exceeded. This reduces the total number of days employers are required to provide a specified amount of water.

4.3.2. DRINKING WATER AVAILABILITY

The proposed standard requires that a specified amount of water be provided when the temperature meets or exceeds the trigger point. The Department considered requiring that the specified amount of water (1 quart per hour per employee) be provided at the beginning of the work shift. In an effort to make this requirement less burdensome, the proposed rule allows the employer to refill the water supplies throughout the day. This may reduce the total volume of water an employer is required to have at all times and may also minimize the number of water containers the employer is required to have on site.

4.3.3. EMPLOYEE PROVIDED WATER

The Department could have considered prohibiting employers from allowing employees to provide their own water. Many employees prefer to provide their own drinking water and the proposed rule does not prohibit this practice. Allowing employees to bring their own water, in combination with the ability employers will have to refill water reserves throughout the day, may reduce the total amount of water employers are required to provide.

4.4 WAC 296-62-09550, RESPONDING TO SIGNS AND SYMPTOMS OF HRI

4.4.1. MEDICAL CERTIFICATION

The proposed rule requires that employees showing signs or symptoms of heat-related illness are monitored to determine whether medical attention is necessary. Monitoring an ill employee can be done by a supervisor or coworkers in the same manner that determinations are made for other industrial illnesses or accidents (such as a sprained ankle). The Department was asked to consider a requirement that the supervisor or lead worker have relevant medical training or certification to make this assessment. This approach would have increased the cost and burden for the employer at each work site, including the costs of administrative work and potentially that of maintaining a certificate.

4.4.2. AIR-CONDITIONED COOLING AREAS

Under the section of the proposed rule related to responding to signs and symptoms of HRI, an employee must be relieved from duty and provided with sufficient means to reduce body temperature when experiencing heat-related illness. The Department considered requiring that an air-conditioned cooling area be provided, which would increase both cost and burden for employers. The proposed rule instead allows employers to develop and implement their own cost-effective solutions for each work site.

4.5. WAC 296-62-09560, INFORMATION AND TRAINING

4.5.1. SPECIFIED AMOUNT OF TRAINING

The proposed rule lists the information that needs to be addressed in the employee training, but there is no minimum amount of time that must be spent on this training as long as all employees understand the information specified in the proposed rule. The Department could have required a specified amount of training (i.e. eight hours). Instead, the proposed rule provides flexibility for implementing the training requirements to ensure that each employer can effectively meet this requirement with the least amount of cost. This also results in less administrative burden for employers, since they do not need to develop and prepare materials for a training that will take place over a substantial period of time.

4.5.2. CERTIFIED TRAINER

The proposed rule allows the employer to provide HRI training without the requirement that the trainer be certified. The Department could have required that the individual providing the training obtain certification. That this is not required reduces the cost of training since the employer does not need to send an individual to get training certification or pay a certified trainer.

4.5.3. FORMAL TRAINING ENVIRONMENT

The training requirement in the proposed rule also allows the employer to provide the HRI training while on the worksite. This minimizes the impact of bringing work crews from disperse locations to hold the training in a classroom-type environment. The Department could have required the training to be provided in a structured classroom setting. Instead, the proposed language allows employers to provide training where the work is being done, making efficient use of employees' and employers' time and therefore reducing the cost and burden to the employer.

5. CONCLUSIONS

This analysis has estimated both the costs and the benefits to Washington workers, businesses, and society if the draft proposed rule were adopted. There is of course always some uncertainty in anticipating what the cost and benefits of a proposed rule may be. Nevertheless, the Department estimates that the net benefits are likely to be positive. Though estimates range anywhere from -$6,611,886 million to +$39,708,440 million, there is much greater confidence in the lower bound cost estimates, which the Department believes to be more reflective of what the rule would require of employers. Please refer to Table A-6 in the appendix for a summary of all quantitative costs and benefits.

In addition, the qualitative benefits of the proposed rule are substantial and likely make up for any remaining difference between benefits and costs even when the upper bound costs and lower bound benefits are considered. To summarize, the Department has identified the following qualitative benefits:

- Clarifies Safe Workplace Requirements
- Reduces Pain and Suffering of Deceased Workers' Family and Friends

- Prevents Long-Term Health Problems
- Prevents Work-Related Injuries Stemming from HRI
- Protects Vulnerable Workers

6. LIMITATIONS

The above analysis is restricted by three noteworthy limitations discussed in turn below: (1) an imprecise sampling frame and small sample sizes, (2) non-response bias and potentially biased survey data, and (3) no quantification of likely effectiveness.

6.1. SAMPLING FRAME AND SAMPLE SIZES

It is not possible to know precisely which businesses in Washington employ outdoor workers in the summer months, so the sampling frame from which the randomly selected sample of businesses was drawn is necessarily different from the true population of businesses in which workers are exposed to heat-related illness.

With respect to sample size, the overall number of respondents with outdoor workers (n=483) is actually adequate when examining a question to which everyone responded (recall the original goal was a sample size of 385). However, this by no means guarantees statistical validity in the cost estimates. For one thing, the data appears to be skewed such that there are a few outliers reporting higher costs for each of the parameters of interest. In addition, the 95% confidence interval really only holds when all respondents' answers are considered. In estimating the upper bound costs reported here, however, the analysis only employed data for those reporting more cost and did not include respondents who reported less or the same cost. As a result, the sample sizes for each upper bound cost estimate are often quite small, throwing their validity into question.

6.2. NON-RESPONSE BIAS AND COST INFLATION

Once again, even though the number of completed surveys (n = 804) and the subset with outdoor workers (n = 483) exceeded the requisite 385 needed to ensure statistical validity, it is highly likely there is some non-response bias, especially in light of the low response rate. That is, certain employers may have been more likely to respond than others. In particular, it is quite probable that those with strong opinions about the rule or with more interest in the outcome were also more likely to respond. There is some evidence of this given the direction the data is skewed.

In a similar manner, respondents naturally had an incentive to inflate their cost estimates. One example of this was a call the economic analyst received from an employer who was very upset about the proposed rule and who repeatedly indicated it was "ridiculous." At the end of the conversation, he mentioned that he had no idea how to estimate the cost and so was just going to put $50,000 for one provision (indeed, one respondent indicated that providing information and training would cost $50,000 a year). Finally, four of the five rule provisions' costs were assessed in dollars per day, but it may be the case that some employers mistakenly provided an *annual* estimate. To the extent this is the case, these costs could be substantially overestimated. Another reason to believe reported cost estimates were not always accurate is that there were a number of inconsistent responses. For example, for each component of the proposed rule, a number of employers reported that they were already doing activities in 2006 that the Department would consider sufficient to be

in compliance with the proposed rule and yet they still reported there would be "more" cost if the rule were adopted. While it is theoretically possible that these employers were in compliance with the emergency rule that was in effect the summer of 2006, a follow-up postcard L&I sent to respondents indicated that the survey questions asking about 2006 activities were intended to get at what employers were doing in the absence of any HRI rule. More likely, these employers who provided inconsistent responses were confused about what was newly required in the proposed rule. They likely assumed that there would be a cost associated with the proposed changes, when in reality there should not be any new costs for them.

6.3. LIKELY EFFECTIVENESS UNKNOWN

A final limitation of the present analysis is that it does not account for the likely effectiveness of the proposed rule. It is very difficult to know in advance what components of the proposed rule will likely be effective and to what degree. Nevertheless, the available literature suggests that the proposed rule is likely to go a long way in preventing heat-related illness. For example, Kerstein et al. (1986) tested the military's *Provisional Heat Doctrine*—including training, water intake, and work/rest cycles—in a random assignment evaluation. The authors found that implementing the doctrine resulted in 50% fewer heat-related illness cases for the treatment group relative to control subjects (Kerstein, et al., 1986). Moreover, another study tested a program in which the performance of arduous outdoor physical tasks came to a halt when the Wet Bulb Globe Temperature (WBGT) reached 88 degrees Fahrenheit (Stonehill & Keil, 1961). The program was successful in reducing the number of non-fatal heat stroke cases from 39 prior to intervention to just 3 cases following implementation, suggesting that such a program can be over 90% effective.

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FIGURE 1: INDUSTRIES EXCLUDED FROM HEAT-RELATED ILLNESS COST SURVEY SAMPLING FRAME

STEP 1: EXCLUDED INDUSTRY SECTORS AT THE 2-DIGIT NAICS-LEVEL
21 Mining
31-33 Manufacturing
52 Finance and insurance
51 Information[63]
55 Management of companies and enterprises
56 Administrative and Support and Waste Management and Remediation Services[64]
62 Health Care and Social Assistance

STEP 2: EXCLUDED INDUSTRIES AT THE 3-DIGIT NAICS-LEVEL
Wholesale (42)
424 Merchant Wholesalers, Nondurable Goods
Retail (44-45)
452 General Merchandise Stores
451 Sporting Goods, Hobby, Book, and Music Stores
448 Clothing and Clothing Accessories Stores
447 Gasoline Stations
446 Health and Personal Care Stores
Real Estate and Rental and Leasing (53)
531 Real Estate
533 Lessors of Nonfinancial Intangible Goods
Other Services (except Public Administration) (81)
813 Religious, Grantmaking, Civic, Professional, and Similar Organizations
Professional, Scientific, and Technical Services (54)
5411 Legal Services
5412 Accounting, Tax Preparation, Bookkeeping, and Payroll Services
5414 Specialized Design Services
5415 Computer System Design and Related Services
5416 Management, Scientific, and Technical Consulting Services
5418 Advertising and Related Services
STEP 3: EXCLUDED INDUSTRIES AT THE 6-DIGIT NAICS-LEVEL
Retail Trade (44-45)
442110 – furniture stores
442210 – floor covering stores
442291 – window treatment stores
442299 – all other home furnishings stores
443111 – household appliance store
443112 – radio, television, and other electronics stores

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[63] All businesses in this sector were excluded *except* the following: 512 Motion Picture and Sound Recording, 515 Broadcasting (except Internet), and 517 Telecommunications

[64] All businesses in this sector were excluded *except* the following: 562 Waste Management and Remediation Services, 5616 Investigation and Security Services, and 5617 Services to Building and Dwellings

443120 – computer and software stores
443130 – camera and photographic supplies stores
444120 – paint and wallpaper stores
444130 – hardware stores
445110 – supermarkets and other grocery stores
445120 – convenience stores
445291 – baked goods stores
445292 – confectionery and nut stores
445299 – all other specialty food stores
445310 – beer, wine, and liquor stores
453110 – florists
453210 – office supplies and stationery stores
453220 – gift, novelty, and souvenir stores
453310 – used merchandise stores
453910 – pet and pet supplies stores
453920 – art dealers
453991 – tobacco stores
453998 – other miscellaneous store retailers (except tobacco)
454111 – electronic shopping
454112 – electronic auctions
454113 – mail-order houses
445210 – meat markets
445220 – fish and seafood markets
445230 – fruit and vegetable markets
454210 – vending machine operators
454311 – heating oil vendors
454312 – liquefied petroleum gas (bottled gas) dealers
454319 – other fuel dealers
454390 – other direct selling establishments
441310 – automotive parts and accessories stores
441320 – tire dealers
Professional, Scientific, and Technical (54)
541921 – photography studios, portrait
541930 – translation and interpretation services
541940 – veterinary services
541910 – marketing research and public opinion polling
541922 – commercial photography
541720 – research and development in the social sciences and humanities
541990 – all other professional, scientific, and technical services
541380 – testing laboratories
Arts, Entertainment, and Recreation (71)
712110 – museums
713210 – casinos (except casino hotels)
713950 – bowling centers
713920 – skiing facilities
713940 – fitness and recreational sports centers
Accomodation and Food Services (72)
721110 – hotels (except casino hotels) and motels

721120 – casino hotels
721191 – bed and breakfast inns
721310 – rooming and boarding houses
722110 – full-service restaurants (there are a lot of these)
722211 – limited-service restaurants
722212 – cafeterias
722410 – drinking places (alcoholic beverages)
721199 – all other traveler accommodations
722213 – snack and nonalcoholic beverage bars
722310 – food service contractors
722320 – caterers
Other Services, Except Public Administration (81)
811211 – consumer electronics repair and maintenance
811212 – computer and office machine repair and maintenance
811213 – communication equipment repair and maintenance
811219 – other electronic and precision equipment repair and maintenance
811412 – appliance repair and maintenance
811420 – reupholstery and furniture repair
811430 – footware and leather goods repair
811490 – other personal and household goods repair and maintenance
812111 – barbershops
812112 – beauty salons
812113 – nail salons
812919 – diet and weight reducing centers
812199 – other personal care services (includes things like spas, tanning, and massage)
812310 – coin-operated laundries and dry cleaners
812320 – dry cleaning and laundry services (except coin-operated)
812331 – linen supply
812332 – industrial launderers
812921 – photofinishing laboratories (except one-hour)
812922 – one-hour photofinishing
814110 – private households
812990 – all other personal services
812910 – pet care (except veterinary) services
Public Administration (92)
921120 – legislative bodies
922130 – legal counsel and prosecution
923140 – administration of veterans' affairs
928110 – national security
928120 – international affairs

TABLE A-1. REVIEW OF PAST L&I REGULATORY COST SURVEY RESPONSE RATES

Rulemaking Content Area	Year of	Survey Sample Size	Sampling Method	Total Respondents	Response Rate[65]

[65] Response rates provided here reflect the number of surveys received *of those sent*, not necessarily those that were deliverable. Some L&I researchers have reported different response rates for these surveys elsewhere to

	Survey				
Lead	2005	492 to construction firms (428 deliverable) 615 to general industry firms (492 deliverable)	Random selection Random selection	115 for construction 108 for general industry	23% 18%
Self-Insurance: Medical Care, Claims Handling, Personnel Qualifications	2005	391	Surveyed entire population of self-insured employers	36	9%
Ground Personnel: Personal Protective Equipment	2004	849	Randomly selected 10% of businesses from each of the relevant industries	209 useable surveys	25%
Ground Personnel: Motor Vehicles	2004	849	Randomly selected 10% of businesses from each of the relevant industries	197 useable surveys	23%
Machine Safety: Chippers and Hog Mills	2003	1,000	Random selection	248	25%
Agriculture	1998	323	Stratified random sample, weighting small businesses more heavily	30	9%
Health Care Services	1998	529	Random selection	41	8%
Ergonomics	1998	5,644 (4,425 contacted by phone by Gilmore Research Group)	Stratified random sample, weighting industries with few firms and large businesses more heavily	1,085	19%

RE: CONFIDENTIAL and ANONYMOUS SURVEY June 1, 2007

Dear Business Safety Manager:

The Washington State Department of Labor and Industries (L&I) is preparing a draft proposed Washington Industrial Safety and Health Act (WISHA) rule that will regulate practices related to outdoor work. The draft proposed rule is WAC 296-62-095, Heat-Related Illness in the Outdoor

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reflect the number of surveys received *of those delivered*. The more conservative of the two response rates is used here to ensure an adequate starting sample size for the HRI surveys that assumes some loss from undeliverable surveys.

Environment. The sections requiring economic analysis to understand the rule's potential impact on businesses are the following:

WAC 296-62-09530, Employer responsibility
WAC 296-62-09540, Drinking water
WAC 296-62-09550, Responding to signs and symptoms of heat-related illness
WAC 296-62-09560, Information and training

The pages that follow have descriptions of specific sections of the draft proposed rule and a *brief* 17-question survey we hope you will complete. Your business has been randomly selected to receive this survey. Your response will help L&I assess the economic impact the draft proposed rule requirements may have on your business and businesses like yours. Please respond to questions as completely as possible. **Responses to this survey are entirely confidential and will be used *only* to estimate the compliance costs that may result from the adoption of the draft proposed rule.** Please use the enclosed self-addressed, postage-paid envelope and return the survey no later than **June 29, 2007**.

Please note that this survey represents only the draft proposed rule sections that L&I believes will have an economic impact. It is not intended to be a complete listing of the draft proposed rule's provisions. Also, the final section (#7) relates to a requirement the department is considering but that is *not* part of the draft proposed rule.

If you have any questions about the survey, please contact Melissa Ford Shah at (360) 902-5122. If you have questions about the draft proposed rule, please contact Jamie Scibelli, Administrative Regulations Analyst, at (360) 902-4568.

Thank you, in advance, for your cooperation and assistance with this!

Regards,

Jamie Scibelli
Administrative Regulations Analyst
Division of Occupational Safety and Health (DOSH)

Melissa Ford Shah
Senior Researcher
Research and Data Services

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RESPONSES TO THIS SURVEY ARE <u>CONFIDENTIAL</u>

SECTION #1: SURVEY QUESTIONS ABOUT YOUR BUSINESS

Please answer the following questions about the size and nature of your business. Your answers will help us understand how the draft proposed rule might affect businesses of different types and sizes. *Thanks again for your time!*

All questions are for the calendar year 2006:

1. In 2006, what was the maximum number of **full-time** workers your business employed?
   _____

2. In 2006, did your business employ any **part-time** or **seasonal** workers?

   YES _____ NO _____

   2(a) ***IF YES,*** how many total hours did your part-time and/or seasonal employees work?

   _____ total hours

3. Please check the **ONE** industry or sector name that best describes your business:

My business is in…	✓
Administrative and Support and Waste Management and Remediation Services	
Accommodation and Food Services	
Agriculture	
Construction	
Forestry, Fishing, and Hunting	
Manufacturing	
Public Administration *Please specify type of work:*	
Real Estate, Rental, and Leasing	
Retail Trade	
Transportation and Warehousing	
Wholesale Trade	
Other *(please describe)*	

4. In 2006, how many employees in your business worked **outdoors** (including in vehicles, sheds, or tents) during the spring and/or summer months?

   _____ employees

   If ANY of your employees worked outdoors during spring and/or summer months, please complete the rest of the survey.

   If NONE of your employees worked outdoors during the spring and/or summer months, you are done. Please return your completed survey to L&I in the self-addressed stamped envelope provided. *Again, Thank You for your time and participation!*

SECTION #2: DEFINITIONS

Please read these definitions for the following terms used in the Heat-Related Illness draft proposed rule and in the remaining sections of this survey, and then continue with the survey:

(1) ***Acclimatization*** means the body's temporary adaptation to work in the heat that occurs gradually as a person is exposed to it.

(2) ***Drinking water*** means water that is safe for human consumption meeting the quality standards prescribed by the federal Safe Water Drinking Act or water which is approved for drinking purposes by the state or local authority having jurisdiction. Water packaged as a consumer product is an acceptable source of drinking water.

(3) ***Environmental factors for heat-related illness*** means working conditions that increase the susceptibility for heat-related illness including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, and personal protective equipment worn by employees.

(4) ***Heat-related illness*** means a medical condition resulting from the body's inability to cope with a particular heat load, and includes, but is not limited to, heat cramps, heat rash, heat exhaustion, fainting, and heat stroke.

(5) ***Heat-related illness hazard*** means exposure to environmental factors for heat-related illness.

(6) ***Outdoor environment*** means an environment where work activities are conducted outside of a building shell (generally referring to a ceiling and at least three sides). Environments such as vehicle cabs, sheds, and tents or other non-permanent structures may be considered an outdoor environment when the environmental risk factors are not controlled.

(7) ***Personal factors for heat-related illness*** means factors including, but not limited to, an individual's age, degree of acclimatization, medical conditions, water consumption, alcohol consumption, caffeine consumption, nicotine use, and use of prescription and non-prescription medications that affect the body's water retention or other physiological responses to heat.

SECTION #3: EMPLOYER RESPONSIBILITY (WAC 296-62-09530)

The **current** standards under chapter 296-800 WAC, Safety and Health Core Rules, require you to develop an Accident Prevention Program tailored to the needs of your particular workplace. You must provide a workplace free from known hazards that are causing, or are likely to cause, serious injury or death. DOSH does not currently have permanent requirements that specifically address outdoor heat-related illness hazards.

The draft **proposed** language in WAC 296-62-09530, Employer Responsibility, states that you must establish, implement, and maintain effective written procedures to prevent the occurrence of heat-related illness which include, but are not limited to, the following elements:

(a) Identification and evaluation of temperature, humidity, and other environmental factors associated with heat-related illness

(b) Provisions to prevent, control, and correct hazards associated with the occurrence of heat-related illness including, but not limited to:
- The provision of rest breaks that are adjusted for environmental factors;
- Encouraging frequent consumption of water, as described in 296-62-09560(2)(e) Information and training; and

(c) Procedures for responding to signs and symptoms of possible heat-related illness and accessing medical aid.

What this means to you:

Under the draft proposed language, you will need to develop and put into place procedures specifically aimed at preventing heat-related illness.

You will need to have a written program in place showing how you will identify and evaluate environmental factors in the workplace known to be related to heat-related illness.

Survey Questions about *Employer Responsibility* (WAC 296-62-09530)

5. Does your Accident Prevention Plan currently include steps to prevent heat-related illness?

   YES _____ NO _____

6. What does your business currently do to identify and evaluate temperature, humidity, and other environmental factors before employees are exposed to heat-related hazards? (**Mark all that apply.**)

Method	✓
Local TV/radio broadcasts	
Newspaper	
Local weather stations	
Internet	

Worksite measurements (such as temperature)	
Other methods *(please describe)*	
NONE	

6(a) ***IF 'NONE'...***What would you do in the future to monitor temperature, humidity, and other environmental factors if the draft proposed rule were adopted?

Method	✓
Local TV/radio broadcasts	
Newspaper	
Local weather stations	
Internet	
Worksite measurements (such as temperature)	
Other methods *(please describe)*	

6(b) To put in place the method(s) you listed above in 6a, do you think it would cost your business **less**, about the **same**, or **more** than you currently spend? *(Please check **only one**)*

_____ Less _____ Same _____ More

(6c) ***IF MORE***, approximately *how much more* per day?

_$_____/DAY

7. What does your business currently do to prevent, control, and correct hazards related to heat-related illness? (**Mark all that apply**.)

Methods	✓

Cooling areas	
Rest breaks adjusted for environmental factors	
Use of a buddy system	
Scheduling work during coolest periods of day	
Acclimatization program	
Engineering equipment (such as cooling vests, heat shields, reflective clothing, or fans)	
Other methods *(please describe)*	
NONE	

7(a) ***IF 'NONE'…***What do you plan to do in the future to prevent, control, and correct heat-related illness hazards if the draft proposed rule is adopted? (**Mark all that apply.**)

Methods	✓
Cooling areas	
Rest breaks adjusted for environmental factors	
Use of a buddy system	
Scheduling work during coolest periods of day	
Acclimatization program	
Engineering equipment (such as cooling vests, heat shields, reflective clothing, or fans)	
Other methods *(please describe)*	

7(b) To put in place the method(s) you listed above in 7a, do you think it would cost **less**, about the **same**, or **more** than you currently spend? *(Please check **one**)*

_____ Less _____ Same _____ More

(7c) ***IF MORE***, approximately *how much more* per day?

_$_____/DAY

SECTION #4: DRINKING WATER (WAC 296-62-09540)

The **current** standard under chapter 296-800 WAC requires you to provide water in the workplace. There are specific requirements for providing water in the agriculture and construction industries.

The draft **proposed** language under WAC 296-62-09540, Drinking Water, states that drinking water must be provided and made readily accessible in sufficient quantity to provide at least one quart per employee per hour when heat-related illness hazards are present.

What this means to you:
The draft proposed rule specifies the minimum amount of water to be provided to employees exposed to heat-related illness hazards. Water supplies may be replenished throughout the day.

Survey Questions about *Drinking Water* (WAC 296-62-09540)

8. How do you currently provide water to outdoor employees? **(Mark all that apply.)**

Water Supply	✓
Bottled water	
Cooler	
Tap water	
Other *(please describe)*	

9. When employees are exposed to heat-related illness hazards, approximately how much water (in quarts per employee per hour) do you *currently* provide at your business' outdoor

work site(s)?
(1 gal = 4 qts)

_____quarts of water per employee per hour

10. Approximately how much does your business *currently* spend (in dollars per day) to provide water at the work site when employees are exposed to heat-related illness hazards?

_$_____ per day

11. To provide 1 quart of water per outdoor employee per hour per day, do you think it would cost you **less**, about the **same**, or **more** than you currently spend? *(Please check **one only**)*

_____ Less _____ Same _____ More

11(a) ***IF MORE***, approximately *how much more* would it cost per day?

_$_____/DAY

SECTION #5: RESPONDING TO SIGNS AND SYMPTOMS OF HEAT-RELATED ILLNESS (WAC 296-62-09550)

There is **no current** standard that governs how employers respond to the signs and symptoms of heat-related illness.

The draft **proposed** language under WAC 296-62-09550, Responding to Signs and Symptoms of Heat-Related Illness, requires that employees experiencing signs or symptoms of heat-related illness be removed from work and provided with a sufficient means to reduce body temperature. *Examples include, but are not limited to, the provision of shaded rest areas, misting stations, or temperature controlled environments (for example, air conditioned trailers).*

What this means to you:

The draft proposed rule will require employers to respond to employees who are experiencing signs or symptoms of heat-related illness.

Survey Questions about *Responding to Signs and Symptoms of Heat-Related Illness* (WAC 296-62-09550)

12. Does your business *currently* remove employees from work who are experiencing the signs and symptoms of heat-related illness?

YES _____ NO _____

13. What, if anything, does your business *currently* do to cool employees who are experiencing the signs or symptoms of heat-related illness? (**Mark all that apply.**)

Cooling Methods	✓
Shade	
Misting stations	
Cooling vests	
Air conditioned spaces	
Tents	
Other *(please describe)*	
None	

13(a) ***IF 'NONE'…***What do you plan to do in the future to cool employees who are experiencing the signs or symptoms of heat-related illness if the draft proposed rule is adopted?

Cooling Methods	✓
Shade	
Misting stations	
Cooling vests	
Air conditioned spaces	
Tents	
Other *(please describe)*	

13(b) To put in place the method(s) you listed above in 13a, do you think it would cost your business **less**, about the **same**, or **more** than you currently spend? *(Please check **one**)*

_____ Less _____ Same _____ More

(13c) ***IF MORE***, approximately *how much more* per day?

_$_____/DAY

SECTION #6: INFORMATION AND TRAINING *(WAC 296-62-09560)*

The **current** standard under chapter 296-800 WAC requires you to have an Accident Prevention Program. You are required to provide an on-site orientation for employees if they are exposed to heat-related illness hazards. As part of this orientation, you are required to inform employees if they could be exposed to heat-related illness hazards.

The draft **proposed** language under WAC 296-62-09560, Information and Training, states the following:

(1) All training must be provided prior to outdoor work assignments presenting heat-related illness hazards, and at least annually thereafter.

(2) Employee training. Training in the following topics must be provided to all employees who may be exposed to a heat-related illness hazard:

a. The environmental factors that contribute to the risk of heat-related illness;
b. Awareness of personal factors that may increase susceptibility to heat illness;
c. The employer's procedures for identifying, evaluating, and controlling exposure;
d. The importance of removing personal protective equipment during all breaks;
e. The importance of frequent consumption of small quantities of water, 1 quart or more over the course of an hour may be necessary when the work environment is hot and employees may be sweating more than usual in the performance of their duties;
f. The importance of acclimatization;
g. The different types of heat-related illness and the common signs and symptoms of heat-related illness;
h. The importance of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers;
i. The employer's procedures for responding to symptoms of possible heat-related illness, including how emergency medical services will be provided should they become necessary;
j. The purpose and requirements of this standard.

(3) Supervisor training. Prior to assignment supervisors must have training on the following topics:

a. The information required to be provided in section (2) above;
b. The procedures the supervisor is to follow to implement the applicable provisions in this section;
c. The procedures the supervisor is to follow when an employee exhibits signs or symptoms consistent with possible heat-related illness, including emergency response procedures;
d. Procedures for moving employees to a place where they can be reached by an emergency medical service provider, if necessary; and
e. How to provide clear and precise directions to the emergency medical provider who needs to find the work site.

What this means to you:

Your business will need to make sure that both employees and their supervisors are trained on heat-related illness hazards and your workplace's heat-related illness prevention program.

Survey Questions about *Information and Training* (WAC 296-62-09560)

14. Does your business currently provide training on the prevention of heat-related illness to all employees who work outdoors?

YES _____ NO _____

14(a) ***IF YES,*** how much does your business currently spend per year to provide training on the prevention of heat-related illness to outdoor employees?

_$_____/YEAR

15. Thinking about the trainer and trainees' time, cost of materials and printing, etc., how much do you estimate the total annual cost for heat-related illness training if the draft proposed rule were adopted?

_$_____Total annual cost (estimated)

SECTION #7, PREVENTATIVE REST BREAKS

NOTE: This is NOT part of the proposed rule.

L&I has considered requiring employers to allow short preventative rest breaks. These would be employee-initiated rest breaks intended to prevent, rather than treat, heat-related illness. These would be different from the requirements in the draft proposed rule related to removing employees from work who are experiencing the signs and symptoms of heat-related illness. They would also be separate from the 10-minute breaks workers are allowed for each 4 hours worked under WAC 296-126-092, Employment Standards.

16. Do you currently allow employees exposed to heat-related illness hazards to take self-initiated rest breaks?

YES _____ NO _____

17. Do you think there would be a cost to your business from having preventative rest breaks available to employees working outdoors in the heat?

YES _____ NO _____

17(a) ***IF YES,*** what do you think would be the additional *daily* cost for your business to provide preventative rest breaks?

_$_____ (estimated cost per DAY)

END OF SURVEY

THANK YOU for taking the time to complete this important survey!
Please return it to Labor & Industries in the self-addressed stamped envelope provided.

TABLE A-2. SAMPLING PLAN IMPLEMENTATION: HEAT-RELATED ILLNESS COST SURVEY FOR ECONOMIC ANALYSIS							
NAICS	**NAICS Description**	**Total Accounts**	**% of All Accounts**	**Proportionate Sample Size (n = 5,500)**	**Missing or Closed Physical Location**	**Duplicate Random Draws**	**Total # of Surveys Sent**
11	Agriculture, Forestry, Fishing And Hunting	9,609	11.0%	605	36	21	548
22	Utilities	623	0.7%	39	5	2	32
23	Construction	32,233	36.9%	2030	26	51	1953
42	Wholesale Trade	7,398	8.5%	466	16	13	437
44-45	Retail Trade	3,684	4.2%	232	9	5	218
48-49	Transportation And Warehousing	5,381	6.2%	339	6	10	323
51	Information	1,765	2.0%	111	1	3	107
53	Real Estate And Rental And Leasing	1,375	1.6%	87	2	1	84
54	Professional, Scientific, And Technical Services	3,076	3.5%	194	5	12	177
56	Administrative And Support And Waste Management And Remediation Services	7,047	8.1%	444	4	12	428
61	Educational Services	4,983	5.7%	314	6	3	305
71	Arts, Entertainment, And Recreation	1,865	2.1%	117	4	6	107
72	Accommodation And Food Services	534	0.6%	34	2	0	32
81	Other Services (Except Public Administration)	5,324	6.1%	335	12	9	314
92	Public Administration	2,454	2.8%	155	8	4	143
		87,351	100.0%	**5,500**	142	152	**5,206**

TABLE A-3. SURVEY RESPONSE BY INDUSTRY AND OUTDOOR WORKERS

Industry	Number of Surveys Received	Percent of Total Surveys Received by Industry	Number of Received Surveys with Outdoor Workers	Percent of Respondents with Outdoor Workers in 2006 by Industry
Administrative and Support and Waste Management and Remediation Services	5	0.6%	3	0.6%
Accommodation and Food Services	5	0.6%	2	0.2%
Agriculture	85	10.6%	76	15.7%
Construction	254	31.6%	196	40.6%
Forestry, Fishing, and Hunting	13	1.6%	12	2.5%
Manufacturing	34	4.2%	13	2.7%
Public Administration	13	1.6%	11	2.3%
Real Estate, Rental, and Leasing	11	1.4%	4	0.8%
Retail Trade	78	9.7%	30	6.2%
Transportation and Warehousing	38	4.7%	26	5.4%
Wholesale Trade	36	4.5%	11	2.3%
Other	212	26.4%	93	19.3%
Missing Industry Classification	20	2.5%	6	1.2%
Total	804	100%	483	100%

TABLE A-4. SURVEY RESPONSE BY INDUSTRY AND SMALL BUSINESS STATUS[66]

Industry	Number of Small Businesses	Number of Total Respondents	Percent Small Business
Administrative and Support and Waste Management and Remediation Services	3	3	100%
Accommodation and Food	2	2	100%

[66] This table includes data for survey respondents who provided enough information to determine whether they were a small business or not.

Services			
Agriculture	68	71	96%
Construction	159	175	91%
Forestry, Fishing, and Hunting	10	11	91%
Manufacturing	8	11	73%
Public Administration	5	11	45%
Real Estate, Rental, and Leasing	4	4	100%
Retail Trade	24	26	92%
Transportation and Warehousing	17	25	68%
Wholesale Trade	8	8	100%
Other	74	83	89%
Missing Industry Classification	3	3	100%
Total	**385**	**433**	**89%**

TABLE A-5. ACCOUNTING FOR ALL HRI COST SURVEYS

Surveys	**Count**	**Percent**
Completed surveys with outdoor employees	483	9.3%
Completed surveys with no outdoor employees	321	6.2%
Undeliverable	720	13.8%
Closed accounts	9	0.2%
Non-respondents	3,673	70.5%
Total surveys sent	5,206	100%

TABLE A-6: HEAT-RELATED ILLNESS COST-BENEFIT ANALYSIS TABLE (80° HEAT INDEX TRIGGER)[67]

IMPACT	COST	BENEFIT	MONETIZED ESTIMATE[68]
Employer Responsibility			
Identifying temperature, humidity, and other environmental factors	X		Lower Bound: $233,140 Upper Bound: $1,717,923
Update APP	X		Lower Bound: $0 Upper Bound: $752,947
Prevent, control, and correct heat-related illness hazards	X		Lower Bound: $465,928 Upper Bound: $2,578,231
Drinking Water			
Providing 1 quart of water per employee per hour per day	X		Lower Bound: $5,784,091 Upper Bound: $15,820,960
Responding to Signs and Symptoms of Heat-Related Illness			
Removing and cooling employees experiencing signs and symptoms of heat-related illness	X		Lower Bound: $0 Upper Bound: $781,282
Information and Training			
Training on the prevention of heat-related illness to employees who work outdoors	X		Lower Bound: $3,559,173 Upper Bound : $7,118,347
Total Costs to Washington Businesses ***Direct Benefits to Employers, Workers, L&I, and Society: Preventing Injury, Illness, and Death***			**Range: [$10,795,280; $28,223,690]**

[67] This analysis only includes monetized costs and benefits. A discussion of the qualitative (non-monetized) costs and benefits is provided as part of a more comprehensive analysis within the cost-benefit analysis document.

IMPACT	COST	BENEFIT	MONETIZED ESTIMATE[68]
Preventing injury and illness and reducing workers' compensation claim costs[69]		X	Lower Bound: $145,794 Upper Bound: $838,037
Value of Statistical Life (VSL)[70]		X	Lower Bound: $4,233,720 Upper Bound: $10,584,299
Benefits to Employers			
Avoiding indirect costs associated with illness/injury		X	Lower Bound: $597,755 Upper Bound: $3,435,951
Avoiding productivity loss due to worker dehydration		X	Lower Bound: $16,634,535 Upper Bound: $35,645,433
Total Estimated Benefits to Washington Workers, Society, and Businesses			**Range: [$21,611,804; $50,503,720]**
Net Benefits	**Range: [- $6,611,886; +39,708,440]**		

[69] The lower bound estimate comes from taking the average annual actuary incurred total cost of Workers' Compensation outdoor HRI claims over an 11 year period and doubling it to account for underreporting. The upper bound estimate is based on Viscusi's (2004) "value of an injury."

[70] Viscusi (2004) estimates the value of a statistical life (VSL) at between $7.8 million and $9.7 million in 2000 dollars for male blue-collar workers. The average VSL for this group is $8.75 million and there have been an average of 0.4 fatalities per year in the 10 year period from 1997 to 2006. Since all four fatalities occurred to male workers, the male blue-collar VSL is used. The figure above adjusts the average VSL to $10,584,299 to account for inflation using an inflation calculator (http://data.bls.gov/cgi-bin/cpicalc.pl). The Department multiplied this estimate by 0.4 to arrive at $4,233,720 as lower bound estimate for preventing fatalities.

Addendum to the Preliminary Cost Benefit Analysis

The Department has determined that the probable benefits outweigh the probable costs. The Department prepared a Preliminary Cost-Benefit Analysis in accordance with chapter 34.05 RCW, Administrative Procedure Act, for the proposed rule language of WAC 296-62-095, Outdoor Heat Exposure. The analysis determined that the probable benefits of the rule outweighed the probably costs at that time.

As a result of the comments received during the public comment period, the Department made several changes from the proposed version to the adopted version of the rule. The changes the Department has made to the adopted version of WAC 296-62-095, Outdoor Heat Exposure, will reduce costs to employers as compared to the rule that was proposed. Therefore, the Department believes the Preliminary Cost-Benefit Analysis overstates costs to comply with the final rule. However, the Department does not believe it is necessary to conduct another survey and revise the analysis given that the result is a further reduction in cost for employers to comply with the adopted version of the rule and given that this will simply increase the expected net benefits. In addition, the Preliminary Cost-Benefit Analysis filed on March 19, 2008 already meets the requirements of chapter 34.05 RCW, Administrative Procedure Act. Also, additional delays may expose employees to outdoor heat exposure during the 2008 summer season. The purpose of this addendum is to provide additional information to be used in conjunction with Preliminary Cost-Benefit Analysis.

Survey Results

In June 2007 the Department conducted a cost survey to assess the costs associated with the requirements of the proposed rule. Although the Department updated the rule language between issuing the cost survey and filing the proposed rule, the Department believed that the survey remained valid because the essential elements needing analysis did not change and the survey still addressed all of the elements of the proposed rule.

As a result of the comments received during the public comment period, the Department updated the proposed rule language before adopting a final rule. The analysis in Attachment 1 provides a structured review of the costs covered by the survey questions and how they have been affected by the adopted language.

After reviewing the analysis, it was determined that, taken together, the costs estimates provided through the survey would be significantly affected by the change in rule language. However, for the purpose of analyzing whether there is a net benefit, the Department believes the survey results for the sections of the proposed rule, which remain in the final rule more than sufficiently represent the costs used in the Cost-Benefit Analysis.

Structured Cost Estimate

Throughout the public comment period, the Department received comments and questions regarding the cost estimates. As a result, the Department developed a structured cost estimate from minimum compliance costs based on the adopted version of the rule. Below Table 1, Structured Estimate of Crew Cost for 20 Employees, and Table 2, Structured Estimate of Crew Cost for 6 Employees, present estimated costs for employers who are not in compliance with any elements of the adopted rule.

During the June 2007 cost survey, the Department collected data on the rate of compliance with the elements of the proposed rule. The tables present the rate that employers reported compliance with the elements of the proposed rule. In addition, the Department received many comments during the public comment period indicating that employers are already in compliance with the proposed rule.

Table 1, Structured Estimate of Crew Cost for 20 Employees

	% Compliance*	Assumptions		Total Summer Cost Low		Total Summer Cost High	
Crew Size		20	employees				
Number of crews		1	per employer				
May 1 through September 30		153	days				
		$ 23.97	wage + benefit per hour				
Training (from survey)	**36%**					$	200.00
Assumes training done on site		20	minutes	$	159.80		
Checking Temperatures	**99%**	5	minutes	$	305.62	$	305.62
Providing water**	**95%**						
Days over 89 Degrees							
Western Washington Average		7.5	Days in summer	$ 119.85		$ 119.85	
Eastern Washington Average		38	Days in summer	$ 607.24		$ 607.24	
Maximum Gallons per day		40					
8 hour work day		8	hours				
Coolers cost		$ 40.84	5 gallon	$	65.34	$	65.34
Cooler life span		5	years				
Filling time		5	minutes per cooler				
Number of coolers for crew		8	5 gallon coolers				
Update APP***	**54%**	1.5	hours	$	35.96	$	35.96
				Total Costs May 1 to September 30			
Western Washington Total		20	employees	$	686.57	$	726.77
Eastern Washington Total				$	1,173.96	$	1,214.16
				Average Daily Cost			
Western Washington Average Daily		20	employees	$	4.49	$	4.75
Eastern Washington Average Daily				$	7.67	$	7.94
				Average Daily Cost/Employee			
Western Washington Average Daily		20	employees	$	0.22	$	0.24
Eastern Washington Average Daily				$	0.38	$	0.40
				New Compliance Average Daily Cost****			
Western Washington Average Daily		20	employees	$	0.87	$	1.03
Eastern Washington Average Daily				$	1.03	$	1.20

***This percentage is derived from employers who indicated they were not in compliance with the elements of the proposed rule during the June 2007 survey.**

****Water assumptions: Average # of FTEs for businesses providing < 1 quart of water and reporting more cost was 12; a 5 gallon cooler = about 19 liters; fixed costs of 2 coolers/jugs (5 gallons each) at $40.84 each; 1 FTE takes 10 minutes to fill two coolers or jugs 2 times/day.**
*****Update APP assumptions: 1 FTE will spend 1.5 hours reviewing rule and updating APP.**
******This cost assumes the employer is in compliance with all existing requirements (i.e. APP, first aid).**

Table 2, Structured Estimate of Crew Cost for 6 Employees

	% Compliance*	Assumptions		Total Summer Cost Low		Total Summer Cost High	
Crew Size		**6**	**employees**				
Number of crews		1	per employer				
May 1 through September 30		153	days				
		$ 23.97	wage + benefit per hour				
Training (from survey)	**36%**					$ 200.00	
Assumes training done on site		20	minutes	$	47.94		
Checking Temperatures	**99%**	5	minutes	$	305.62	$	305.62
Providing water**	**95%**						
Days over 89 Degrees							
Western Washington Average		7.5	Days in summer	$	35.96	$	35.96
Eastern Washington Average		38	Days in summer	$	182.17	$	182.17
Maximum Gallons per day		12					
8 hour work day		8	hours				
Coolers cost		$ 40.84	5 gallon	$	19.60	$	19.60
Cooler life span		5	years				
Filling time		5	minutes per cooler				
Number of coolers for crew		2.4	5 gallon coolers				
Update APP***	**54%**	1.5	hours	$	35.96	$	35.96
				Total Costs May 1 to September 30			
Western Washington Total		6	employees	$	445.07	$	597.13
Eastern Washington Total				$	591.29	$	743.35
				Average Daily Cost			
Western Washington Average Daily		6	employees	$	2.91	$	3.90
Eastern Washington Average Daily				$	3.86	$	4.86
				Average Daily Cost/Employee			
Western Washington Average Daily		6	employees	$	0.48	$	0.65

Eastern Washington Average Daily			$	0.64	$	0.81
			New Compliance Average Daily Cost****			
Western Washington Average Daily	6	employees	$	0.36	$	0.99
Eastern Washington Average Daily			$	0.41	$	1.04

***This percentage is derived from employers who indicated they were not in compliance with the elements of the proposed rule during the June 2007 survey.**

**** Water assumptions: Average # of FTEs for businesses providing < 1 quart of water and reporting more cost was 12; a 5 gallon cooler = about 19 liters; fixed costs of 2 coolers/jugs (5 gallons each) at $40.84 each; 1 FTE takes 10 minutes to fill two coolers or jugs 2 times/day.**

*****Update APP assumptions: 1 FTE will spend 1.5 hours reviewing rule and updating APP.**

******This cost assumes the employer is in compliance with all existing requirements (i.e. APP, first aid).**

The proposed rule language was more onerous than the adopted rule language. This may result in lower costs for compliance with the adopted rule. As a result, the Department does not expect all employers to incur costs for all of the elements of the adopted rule.

Estimate of Benefits

The Department has updated the language in WAC 296-62-09540, Drinking Water. The revision will require employers to have adequate supplies of water available to their employees. The requirements for employee education on water consumption in the context of environmental conditions and workload do not change. As a result, the Department does not believe this change will impact the productivity benefit as presented in the Preliminary Cost-Benefit Analysis.

The Department believes that as long as water is available to employees, hydration can be maintained by employees guiding their water intake to the environmental and workload requirements of their work. There are likely many work situations in which the intake will be less than the one quart per hour per employee. As such, there is likely an overestimate of employer costs associated with providing water at the 1 quart per hour per employee. The benefits from avoiding lost employee productivity due to dehydration do not change since they are estimated related to employers who do not provide any water to their workers. In other words, the benefit estimates in the 'Preliminary Heat-Related Illness (HRI) Cost-Benefit and Least Burdensome Analysis' regarding 'Avoiding Productivity Loss Due to Worker Dehydration' should remain.

V. Comparison of Adopted Rules to Proposed Rules

A. Rule Requirement of the Proposed Rule Compared to the Adopted Rule

The table below provides a summary of the changes made from the proposed version of the rule to the adopted version.

	Proposed rule	Recommendations for adoption
Scope	• Applied to employers with outdoor employees and exempts employees working outdoors for 15 minutes or less in an hour over the entire work-shift (incidental exposure). • Provided temperature triggers for when the requirements for drinking water and responding to signs and symptoms apply.	• Updates the language to limit application of all of the rule requirements when the temperature action levels are met or exceeded. • Adds language limiting the application of the rule from May 1 through September 30 annually. • Removes half of the temperature action levels to streamline application. • Adds language to clearly exempt employees with incidental exposure from the rule requirements. • Clarifies language as a result of comments received.
Definitions	• Provided definitions of “environmental risk factors,” “heat-related illness,” “heat-related illness hazard,” “incidental exposure,” “outdoor environment,” and “personal factors…”	• Removes definitions of “heat-related illness hazard,” “incidental exposure,” and “personal risk factors…” • Adds definitions of “double-layer woven clothing,” and “vapor barrier clothing.” • Updates the definition of “drinking water” to clearly allow the use of electrolyte beverages. • Clarifies language as a result of comments received.
Employer and employee responsibility	• Required a specific written program to address HRI if employees work outdoors. • Provided specific elements that the program must address.	• Changes language to allow employers to address HRI in their Accident Prevention Program (currently required). • Removes requirements for specific elements of the written program. • Clarifies language as a result of comments received.
Drinking water	Required employers to provide 1 quart of water per hour per employee when the temperature triggers are met or exceeded.	Clarifies language as a result of comments received.
Responding to signs and symptoms…	• Applied to employers with employees working in the outdoor environment for more than 15 minutes in an hour. • Required employees showing signs or demonstrating symptoms of HRI to be relieved from duty when temperature triggers are met or exceeded.	• Applies to employers with employees working in the outdoor environment for more than 15 minutes in an hour and temperatures meet or exceed the temperature action levels in Table 1. • Removes language providing examples which caused confusion.
Information and training	• Applied to employers with employees working in the outdoor environment for more than 15 minutes in an hour. • Required annual training on HRI if employees work outdoors. • Provided training topics for employees and supervisors.	• Applies to employers with employees working in the outdoor environment for more than 15 minutes in an hour and temperatures meet or exceed the temperature action levels in Table 1. • Streamlines the training topics by removing topics that are covered by other rules or will have less impact on HRI prevention. • Clarifies rule language as a result of comments received.

B. Changes from the Proposed Version to the Adopted Version of the Outdoor Heat Exposure Rule

The changes from the proposed version to the adopted version are presented below.

The Department made these changes as a result of considering stakeholder comments on the proposed language. These changes provide clarity and alleviate confusion that was communicated from the stakeholder input received. The improvements to the adopted version of the rule reflect the intent of the policies presented in the proposed language, while providing additional specification where requested.

WAC 296-62-095 ~~Heat-related illness in the outdoor environment~~ Outdoor heat exposure.

WAC 296-62-09510 Scope and purpose. (1) WAC 296-62-095 through 296-62-09560 applies to all employers with ~~one or more~~ employees performing work in an outdoor environment. ~~It requires employers to implement workplace practices designed to reduce to the extent feasible the risks of heat-related illness resulting from outdoor exposure to temperature, humidity, and other environmental factors, or any combination thereof.~~

(2) The requirements of WAC 296-62-~~09540, Drinking water, and~~095 through 296-62-~~09550, Responding to signs and symptoms of heat-related illness,~~09560 apply to outdoor work environments ~~where~~from May 1 through September 30, annually, only when employees are ~~or may be~~ exposed to ~~a condition~~outdoor heat at or above an applicable temperature listed in Table 1.

Table 1

To determine ~~the~~which temperature ~~trigger~~applies to each worksite, select the temperature associated with the general type of clothing or personal protective equipment (PPE~~the~~) each employee is ~~wearing and whether the work is being performed in the direct sun or the shade~~required to wear.

	~~Work in direct sun~~	~~Work in shade~~
~~Work clothes~~	~~89□F~~	~~96□F~~
~~Double layer woven clothes (e.g., cotton coveralls on top of summer clothes)~~	~~77□F~~	~~87□F~~

	~~Work in direct sun~~	~~Work in shade~~
~~Vapor barrier (e.g., encapsulating suit or turn out gear)~~	~~52□F~~	~~62□F~~

Outdoor Temperature Action Levels

All other clothing	89ºF
Double-layer woven clothes including coveralls, jackets and sweatshirts	77ºF
Non-breathing clothes including vapor barrier clothing or PPE such as chemical resistant suits	52ºF

Note: There is no requirement to maintain temperature records. The ~~trigger~~ temperatures in Table 1 ~~are~~ were developed based on ~~a dew point of 50□F and were developed for use by the state of~~ Washington State data and are not applicable to other states.

(3) WAC 296-62-095 through 296-62-09560 does not apply to incidental exposure which exists when an employee is not required to perform a work activity outdoors for more than fifteen minutes in any sixty minute period. This exception may be applied every hour during the work shift.

(4) WAC 296-62-095 through 296-62-09560 ~~supplements~~supplement all industry-specific standards with related requirements. Where the requirements under these sections provide more specific or greater protection than the industry-specific standards, the employer shall comply with the requirements under these sections. Additional related requirements are found in chapter 296-305 WAC, Safety Standards for Firefighters and chapter 296-307 WAC, Safety Standards for Agriculture.

WAC 296-62-09520 Definitions. (1) **Acclimatization** means the body's temporary adaptation to work in ~~the~~ heat that occurs as a person is exposed to it over time.

(2) **Double-layer woven clothing** means clothing worn in two layers allowing air to reach the skin. For example, coveralls worn on top of regular work clothes.

(3) **Drinking water** means potable water~~. Water~~ that is suitable to drink. Drinking water packaged as a consumer product ~~is~~and electrolyte-replenishing beverages (i.e. sports drinks) that do not contain caffeine are acceptable.

~~(3~~(4) **Engineering controls** means the use of devices to reduce exposure and aid cooling (i.e. air conditioning).

(5) **Environmental factors for heat-related illness** means working conditions that increase ~~the~~ susceptibility for heat-related illness ~~including~~such as air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload ~~severity~~(i.e. heavy, medium, or low) and duration, and personal protective equipment worn by employees. Measurement of environmental factors is not required by WAC 296-62-095.

(~~4~~6) **Heat-related illness** means a medical condition resulting from the body's inability to cope with a particular heat load, and includes, but is not limited to, heat cramps, heat rash, heat exhaustion, fainting, and heat stroke.

~~(5) **Heat-related illness hazard** means when environmental factors present a condition listed in WAC 296-62-09510(2) Table 1.~~

~~(6) **Incidental exposure** means employees performing work activities in an outdoor environment for a total of fifteen minutes or less in a sixty minute period. This applies every hour during the work shift.~~

(7) **Outdoor environment** means an environment where work activities are conducted outside. ~~Environments~~Work environments such as inside vehicle cabs, sheds, and tents or other temporary structures may be considered an outdoor environment ~~when~~ if the environmental factors affecting temperature are not managed by engineering controls. Construction activity is considered to be work in an indoor environment when performed inside a structure after the outside walls and roof are erected.

~~(8) **Personal factors for heat-related illness** means factors that affect hydration or other physiological responses to heat.~~

(8) **Vapor barrier clothing** means clothing that significantly inhibits or completely prevents sweat produced by the body from evaporating into the outside air. Such clothing includes encapsulating suits, various forms of chemical resistant suits used for PPE, and other forms of non-breathing clothing.

WAC 296-62-09530 Employer and employee responsibility. ~~The employer must establish, implement, and maintain written procedures to reduce to the extent feasible the risks of heat-related illness which include the following elements:~~

~~(1) Identification and evaluation of temperature, humidity, and other environmental factors associated with heat-related illness;~~

~~(2) Provisions to reduce to the extent feasible the risks of heat-related illness which include the following elements:~~

~~. The provision of rest breaks as needed to reduce to the extent feasible the risks of heat-related illness; and~~

~~. Encouraging frequent consumption of water, as described in WAC 296-62-09560~~

(1) Employers of employees exposed at or above temperatures listed in WAC 296-62-09510(2) Table 1 must:

(a) Address their outdoor heat exposure safety program in their written accident prevention program (APP); and

(b) Encourage employees to frequently consume water or other acceptable beverages to ensure hydration.

(2~~)(c) Information and training.~~

~~(3) Procedures for responding to signs or symptoms of possible heat-related illness and accessing medical aid;~~

~~(4~~) Employees are responsible for monitoring their own personal factors for heat-related illness~~,~~ including ~~ensuring they consume adequate water~~consumption of water or other acceptable beverages to ensure hydration.

WAC 296-62-09540 Drinking water. ~~When environmental factors present a condition listed in WAC 296-62-09510(2) Table 1, drinking water must be provided and made readily available in sufficient quantity to provide at least one quart per employee per hour. Employers may begin the shift with smaller quantities of drinking water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour.~~

(1) Keeping workers hydrated in a hot outdoor environment requires that more water be provided than at other times of the year. Federal OSHA and research indicate that employers should be prepared to supply at least one quart of drinking water per employee per hour. When employee exposure is at or above an applicable temperature listed in WAC 296-62-09510(2) Table 1:

(a) Employers must ensure that a sufficient quantity of drinking water is readily accessible to employees at all times; and

(b) Employers must ensure that all employees have the opportunity to drink at least one quart of drinking water per hour.

(2) Employers are not required to supply the entire quantity of drinking water needed to be supplied for all employees on a full shift at the beginning of the shift. Employers may begin the shift with smaller quantities of drinking water if effective procedures are established for replenishment during the shift.

WAC 296-62-09550 Responding to signs and symptoms of heat-related illness. ~~(1) When environmental factors present a condition listed in WAC 296-62-09510(2) Table 1, employees~~ (1) Employees showing signs or demonstrating symptoms of heat-related illness must be relieved from duty and provided with a sufficient means to reduce body temperature. ~~Examples include the following: The provision of shaded rest areas, misting stations, or temperature controlled environments (for example, air conditioned trailers).~~

(2) Employees showing signs or demonstrating symptoms of heat-related illness must be monitored to determine whether medical attention is necessary.

WAC 296-62-09560 Information and training. All training must be provided to employees and supervisors, in a language the employee or supervisor understands, prior to outdoor work which exceeds a temperature listed in ~~conditions that may present heat-related illness hazards~~~~WAC~~ 296-62-09510(2) Table 1, and at least annually thereafter.

(1) Employee training. Training ~~in~~ on the following topics must be provided to all employees who may be exposed to ~~a heat-related illness hazard.~~outdoor heat at or above the temperatures listed in WAC 296-62-09510(2) Table 1:

(a) The environmental factors that contribute to the risk of heat-related illness;

(b) General awareness of personal factors that may increase susceptibility to heat-related illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol ~~consumption~~use, caffeine ~~consumption~~use, nicotine use, and use of ~~prescription and nonprescription~~ medications that affect ~~hydration or other physiological~~the body's responses to heat. This information is for the employee's personal use;

(c) The ~~employer's procedures for identifying, evaluating, and controlling exposure;~~

~~(d) The~~ importance of removing heat-retaining personal protective equipment ~~that increases exposure to heat-related illness hazards~~such as non-breathable chemical resistant clothing during all breaks ~~when feasible~~;

(e) The importance of frequent consumption of small quantities of drinking water~~. One quart or more over the course of an hour may be necessary when the work environment is hot and employees may be sweating more than usual in the performance of their duties~~ or other acceptable beverages;

(f) The importance of acclimatization;

(g) The different types of heat-related illness ~~and~~, the common signs and symptoms of heat-related illness; and

(h) The importance of immediately reporting ~~to the employer, directly~~ signs or ~~through the employee's supervisor,~~ symptoms ~~or signs~~ of heat-related illness in either themselves~~,~~ or in co-workers~~;~~

~~(i) The employer's~~ to the person in charge and the procedures ~~for responding to symptoms of possible heat-related illness,~~ the employee must follow including ~~how emergency medical services will be provided should they become necessary; and~~appropriate emergency response procedures.

~~(j) The purpose and requirements of this standard.~~

(2) Supervisor training. Prior to supervising employees ~~who are~~ working in ~~conditions that may present heat-related illness hazards~~outdoor environments with heat exposure at or above the temperature levels listed in WAC 296-62-09510(2) Table 1, supervisors must have training on the following topics:

(a) The information required to be provided to employees listed in subsection (1) of this section;

(b) The procedures the supervisor ~~is to~~must follow to implement the applicable provisions ~~in this section~~of WAC 296-62-095 through 296-62-09560;

(c) The procedures the supervisor ~~is to~~must follow ~~when~~ if an employee exhibits signs or symptoms consistent with possible heat-related illness, including appropriate emergency response procedures; and

(d) Procedures for moving ~~employees~~ or transporting an employee(s) to a place where ~~they~~the employee(s) can be reached by an emergency medical service provider, if necessary~~; and~~.

~~(e) How to provide clear and precise directions to the emergency medical provider who needs to find the work site.~~

VI. Summary of Comments Received and Department Response

Below is a summary of the comments received on the proposed Heat-Related Illness rule. Comments received after 5:00 p.m. on May 9, 2008 have not been included in this document. However, the Department reviewed these comments and believes they are consistent with the comments or concerns raised by others which have been responded to below.

WAC Section	Commenter	Comment	DOSH Response
		General Suggestions and Questions	
General	Hamley Hale	Instead of imposing more rules and regulations, why don't you consider preventive steps such as straw hats, long sleeve shirts, and gloves? The objective should be focused on keeping the sun rays off of the skin which helps keep body temp. lower, and providing water at all times instead taking more time off of the work day to sit in the shade. Several years ago Australia had a nation- wide campaign covering the above mentioned items, and ran it on all media outlets across the country.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is required to address heat-related illness in their Accident Prevention Program. The methods the employer chooses to utilize for prevention are not specified by the rule. This allows the employer the ability to determine what is most appropriate for their worksite(s). The Department intends to provide information similar to what is suggested here in training materials.
General	*Unknown*	Crew size • one trained; two without Water • two containers • One non potable – purpose, dunking articles of clothing or clean rags for cooling Shaded area • 8 feet by 8 feet min. • Quiet, cool, good air flow • Free from management or stress Hats • panama style or a farmer brown straw hat (very important) Note: 1. Lightweight 2. Rim should be 3 to 4 inch (can be _____up or down) 3. Will keep it's shape when wet 4. Air cool, good air flow 5. Hats, free of chemical, made of organic material Spray Bottle	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		• One pint manual pump container • Can be carried on person Working alone in hot weather should be illegal. • Working alone in remote area. The one hour call in, to be check on is wrong. Note: Practicing the buddy system is the most effective.	
General	Steve's Auto Body Tow 10	Do: • Providing training to your employees and supervisors so they can recognize the signs, symptoms and risk factors of heat-related conditions and know what to do. • Providing additional drinking water on days when temperatures reach specified levels. • Responding to signs and symptoms when the temperature is at specified levels. • Updating your written safety plan to describe procedures you will use to reduce the risks of heat-related illness. Anything to lower any injuries. I've sent my employees to Tow Classes which shows safety in work process. Also WSP of WASL requires safety checks of equipment.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Sandra Bush Kaufman Brothers Construction, Inc.	I was at the hearing in Tumwater, on Monday April 29th and I would like to make a few written comments regarding the proposal. First of all, after reviewing the presentation and listening to what L&I said, it appeared to me that there was some misunderstanding among most of the employers who were at the hearing. If I understand the proposal correctly, the cost impact does not seem to be as great as everyone is thinking. It was brought up several times that we live in an area where the temperatures do not exceed 89 degrees very often, and since we will not be required to provide a quart of water per employee, per hour, unless we do exceed 89 degrees, the cost for the water should be minimal. Anyway, I don't see that as a problem for us. We start our shifts earlier in the day when we know it's going to be hot so the field employees are usually done for the day before the temperatures reach 89 or higher. As far as checking the temperature, it seems that it will be easy enough to have an accurate reading thermostat installed in our vehicles so they can keep track of the temperatures. Also, I do site visits when time permits, so I can check it as well and advise the superintendents when we should provide additional water, or shut down for the day.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.

WAC Section	Commenter	Comment	DOSH Response
		I guess my only concern is the training. We have first aid classes each year, which we talk about heat strokes, but if we need additional training beyond that then I should contact Sharon Drozdowsky for training??	
General	Larry Giampapa	For once I would like to see a standard that has the actual training information on a one or two page pdf file which can be easily copied or printed and used as the basis for the training and as a handout. I would also like to see L&I WISHA enlist the aid of radio and television news broadcasting to provide public safety alerts as part of their weather reports whenever temperature/humidity reaches levels of concern as printed in the temp chart that should be an Appendix document to the WISHA standard. Send news releases to the stations every day there is an alert. The public service announcements help them meet the requirements of their FCC license renewals. This should be the same approach for cold weather extremes. As part of the standard the L&I WISHA website should have a link to a map of the entire state with the wet bulb temps for all monitored weather stations in the State.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.
General	Marty Lyons Brace Point Railings	I am not against the proposed Heat Stress rule if there is data to support the need. While I hear a lot of opposition from trade associations, I don't know if this is a knee-jerk reaction or if the opposition is simply against change. Does L&I have data to support the proposed rule's need? Are heat-stress injuries so common that this issue has finally percolated to the surface? How would I find out how frequent these heat-stress situations occur? Where is the data that is used to support the proposed rule?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at

WAC Section	Commenter	Comment	DOSH Response
			http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Additional supporting documentation for the rulemaking is available in other areas of the Concise Explanatory Statement.
General	Greg Reiswig Anderson Roofing Inc	Is this accurate? This is taken from a BIAW bulletin; 1. The rule contains a number of 'implicit requirements;' things which aren't explicitly required but employers will be forced to do anyway to prove compliance, including: a. Keeping temperature logs to demonstrate climate awareness b. Maintaining cooling stations in the event of a potential Heat Related Illness (HRI) c. Evaluating "environmental risk factors" which could affect exposure to HRI, such as i. Radiant heat ii. Humidity iii. Air movement iv. Conductive heat v. Heavy labor or work task with long durations 2. Even L&I's own, objective claims data demonstrates a lack of necessity for a rule regulating heat stress; a. 446 claims out of 1.44 million in ten years - and that includes indoor <u>and</u> outdoor claims. That's three-thousandths of one percent over a ten year period. *3.* The Small Business Economic Impact Statement conducted by L&I indicates the cost of compliance for small businesses to be $17.30 per employee per day. *Estimate your company's cost of compliance.* 4. The heat stress rule is disproportionate rulemaking - focusing on what is essentially a small problem at the expense of losing sight of bigger, more dangerous workplace safety issues. 5. All employers strive to provide safe workplaces and many already protect workers from heat illness - but this rule goes overboard, won't do more to protect workers, and just gives L&I more reasons to write citations. 6. California is the only other state with a similar rule - a state where it's not uncommon for temperatures to reach more than 110 degrees. If regulators in states like Arizona, Oklahoma, Texas, etc. don't see it as a necessary burden to place upon employers, why do Washington state's regulators? 7. Just like the ergonomics rules from a few years ago, this is just one more costly, burdensome regulation imposed by overzealous regulators who have no idea what it takes to run a small business. 8. The rule as proposed will have a disproportionately negative impact on small businesses, according to L&I's own Small Business Economic Impact Statement. L & I needs to enforce their current rules - not adopt new ones Current laws for employers in construction (and agriculture) already require first-aid training, an adequate water supply, and mandatory rest periods for all workers. These laws have been in place for years, and were in place during the past two summers when 2 workers apparently (and unfortunately) perished from heat-related conditions. The employers in these cases were found to be in violation of at least some of these laws. How will the imposition of new laws upon all employers provide any greater protection than the old laws which were not being adequately enforced by your L&I? And why does L&I believe that employers who ignored the old laws aren't just going to ignore the new ones?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has updated the rule language to clarify that keeping a temperature log, maintaining a cooling station, and evaluating environmental risk factors are not requirements of WAC 296-62-095. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect

WAC Section	Commenter	Comment	DOSH Response
		There is nothing wrong with current laws - which, by the way, remain on the books. L&I may assert that some employers won't use common sense to protect their workers unless there are possible enforcement consequences. Possible enforcement consequences existed *before* L&I imposed the emergency heat stress rule, but it didn't compel at least two employers to follow the law then - what makes you think it will now? It could potentially lead to more frequent and more hazardous workplace injuries to workers L&I needs to focus on making sure employers protect their workers from real and more likely workplace hazards instead of focusing on new regulations mandating common sense. *Examples:* o *Slipping off ladders due to rushing up and down every 15 minutes to get a drink of water* o *Falling off the roof because of the rush to take off and put back on safety gear every 15 minutes* o *Increase in knee and other joint problems due to excessive, repetitive climbing up and down ladders every 15 minutes - up to 32 times in an 8 hour day* o *Slipping on wet surfaces because watering stations will likely end up muddying the worksite from spilled water* o *Hyponatremia (drinking too much water)* If so, I cannot believe where your dept. is going with these proposed additional Heat Stress Rules. I own a roofing company, employing approximately 12 full time employees. We are small but we have a big reputation, voted #1 in King Co. for customer satisfaction in '07. My employees are highly paid and greatly responsible for our reputation. The last thing I would allow is for any one of them to be exposed to anything that would cause me to loose them, temporarily or God forbid, permanently. They are a great asset and I protect them with common sense (and compliance with existing laws). I operate my business by the book and with complete integrity. I honestly am beginning to feel like our State Government is trying to put the small businessman out of business! I really don't know how we could manage more layers of rules. It seems we're heading towards more time and money being spent on being in compliance than actually "doing business" - serving my customers (and providing revenue for the state!). If these proposed rules are allowed to become law, it will likely become the proverbial "straw that breaks the camels' back" for many more small businesses who will move to a more business friendly state or just close their doors!! Will you please reconsider and put an end to disproportionate rulemaking that is not necessary for a safe workplace?	a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Heat-related illness is mentioned briefly in rules for wildland firefighters, emergency response, compressed air work, and agriculture. However, these rules lack a comprehensive set of requirements to assist the employer in identifying and eliminating the hazard. The Department believes that the adoption of a comprehensive set of standards that applies across industries will assist the employer by informing them of the Department's expectations for evaluating and abating the hazards at their work sites. The rule accomplishes this by providing specific requirements that allow the employer to determine the most appropriate compliance method for their worksite. In addition, this also provides consistency for DOSH enforcement when they are conducting worksite safety and health inspections. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors.

WAC Section	Commenter	Comment	DOSH Response
			The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees.
General	Sharon Young Concord Construction, Inc.	I agree a heat stress rule is needed but the compliance is very time consuming and expensive to adhere to. Contractors have increasing expenses right now, as it is. Can't this be simpler and still be effective? It seems you could just require a misting device when the temp. reaches a certain degree. This plus the water would be sufficient and easier to comply with.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated many changes to the proposed rule in an effort to simplify and clarify the requirements. WAC 296-62-095 does not require the employer provide a misting device. However, the employer may choose to provide a misting device. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General	Doug Gibbs Gibbs Roof Company	"Palm Springs, Ca." for many years. Heat is a problem there. We started the day early, wore white clothing and drank a lot of water. Salt tablets were also recommended. I suffered no negative effects as I got quite used to the heat. I also followed the guidelines	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		listed above. Washington State has a very healthful environment for roofing. Yes it does get hot at times but for the most part it is cool with a cloud cover. On hot days I encourage my employees to go home early. I also make sure the foreman keeps a five-gallon water jug on the roof with good drinking water in it. I advise them to not put ice in the water jug as ice water may cause a stomach ache. Each employee should have their own cup with their name on it attached to the water jug.	
General	Curt Russell	Please allow me to start off by saying I support the intent of this proposed rule, it is important to address all workplace safety issues that are faced by Washington State employees and employers. However I have found several things about this rule as it is written that trouble me. First, the scope of the rule: this applies to employers with one or more employees performing work in an outdoor environment. The concern I have is that this only applies to workers working outdoors. Shouldn't this apply to all employees who are exposed to environmental and working conditions that can lead to heat related illness? Such as in a foundry, a steel mill, or construction work in a building on a hot day. Heat related illness is not solely tied to the ambient temperature; humidity, physical activity, general health of the worker, caffeine, certain medications, and more all contribute to a workers susceptibility to a heat related illness event. And if the argument for not including indoor hot environments is that there are existing rules for those areas, it seems to me that those same existing rules apply to outdoor environments, thus negating the need for a new rule. Next, during the May 2, 2008 presentation in Seattle John Furman used terms such as intended, reasonable, and temperature triggers that are troubling. When he discusses the temperature triggers referenced in Table 1 of WAC 296-62-09510 I wonder where these numbers came from. He mentions the CDC, ACGIH, and others as a basis for this information; however, it is too vague for a specific temperature that can be a basis for legal action. It is understood that generally accepted industry practices are used in development of rules, but when a new rule with legal implications is proposed the supporting data should have concrete scientific evidence backing it and certainly when the medical community has a wealth of data available to consider. Also all contributory factors, such as humidity, air movement, physical activity, etc should be included. Additionally, Mr. Furman specifically mentions that it perfectly okay to use the temperature on the "bank across the street" to determine if the trigger temperature has been met. The problem with this is that these readers are notoriously inaccurate and does not provide other relevant data such as humidity and since fines and other legal implications are tied to this rule the standard should be better.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment. This rule only applies to the indoor environment. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the AGCIH Physical Hazards Committee to develop a temperature action level that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html.

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The challenge with terms such as intended and reasonable is the use is subjective – what is reasonable or intended to one individual is not necessarily the same to another given the same parameters.

Third and most important, the definition of Heat-related illness: the signs and symptoms of HRI are the same or similar to other medical conditions that workers can suffer. Such as a diabetic emergency or low blood sugar, influenza (the flu is not necessarily a winter only occurrence), myocardial infarction, and cerebral vascular accident or stroke. This appears to be somewhat addressed in the training section of the code and the training materials you provide seem adequate in addressing the ability to recognize a heat related illness. My concern with this training is a supervisor or co-worker can easily mistake a stroke or heart attack for HRI and not seek appropriate medical assistance soon enough. In a stroke and heart attack the earliest intervention possible is critical and the delays that may occur because of a misdiagnosis can be deadly. From my own experience, it can be difficult for a paramedic to provide a differential diagnosis in this type of event and subsequently will treat to the “worse case” scenario – typically a heart attack or stroke. If it is difficult for a trained medical professional to recognize a difference without measurements how can we expect someone with just basic first aid training to know and recognize a difference between HRI and heart attack.

The following table outlines symptoms of heat related illnesses and other medical conditions. I have highlighted the HRI symptoms that are the same in other medical emergencies. Note the similarities and imagine the ease of confusion a lay first aid provider can encounter in this type of event:
<table>
<tr><th>HRI Illness</th><th colspan="2">Symptoms</th></tr>
<tr><td>Heat cramps</td><td colspan="2">• Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves or feet
• Hard, tense muscles</td></tr>
<tr><td>Heat exhaustion</td><td>• Fatigue
• Nausea
• Headaches
• Excessive thirst
• Muscle aches and cramps
• Weakness</td><td>• Confusion or anxiety
• Drenching sweats, often accompanied by cold, clammy skin
• Slowed or weakened heartbeat
• Dizziness
• Fainting
• Agitation</td></tr>
<tr><td>Heat stroke</td><td>• Nausea and vomiting</td><td>• Shortness of breath</td></tr>
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The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee’s clothing or PPE was determined as a result of Dr. Bernard’s research.

This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State’s dew point.

The WBGT formula is as follows:
With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$
Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$

T_w= Natural wet-bulb temperature (humidity indicator)
T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation)
T_d=Dry-bulb temperature (normal air temperature)

The Department believes that while the signs and symptoms of heat-related illness may mimic those of other medical events, the intent is to increase awareness of heat-related illness and provide appropriate first response. The requirements to relieve the employee from duty, provide a means to cool down, monitor the individual, and have protocols in place to access emergency medical services if necessary are appropriate and effective strategies to respond to heat-related illness and most adverse medical events. To assist in identifying heat-related illness, the Department has developed a chart comparing the symptoms of heat-related illness to heart attack and pesticide exposure. This information is available on the Department’s website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
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WAC Section	Commenter	Comment	DOSH Response

	• Headache • Dizziness or vertigo • Fatigue • Hot, flushed, dry skin • Rapid heart rate • Decreased sweating	• Decreased urination • Blood in urine or stool • Increased body temperature (104 to 106 degrees Fahrenheit) • Confusion, delirium or loss of consciousness • Convulsions
Other Medical Conditions	**Symptoms**	
Influenza	• fever (usually high) • severe aches and pains in the joints and muscles and around the eyes • generalized weakness • ill appearance with warm, flushed skin and red, watery eyes	• headache • dry cough • sore throat and watery discharge from your nose
Heart attack	• Chest discomfort that feels like pressure, fullness, or a squeezing pain in the center of your chest. It lasts for more than a few minutes, or goes away and comes back • Pain and discomfort that extends beyond your chest to other parts of your upper body, such as one or both arms, back, neck, stomach, teeth, and jaw • Unexplained shortness of breath, with or without chest discomfort • Other symptoms, such as cold sweats, nausea or vomiting, lightheadedness, anxiety, indigestion, and unexplained fatigue	
Stroke	• Numbness, weakness, or paralysis of the face, arm, or leg, typically on one side of the body. • Trouble seeing in one or both eyes, such as dimness, blurring, double vision, or loss of vision. • Confusion, trouble understanding.	• Slurred or garbled speech. • Trouble walking, dizziness, loss of balance or coordination. • Severe headache
Diabetic event (low blood sugar)	• Nausea • Extreme hunger • Feeling nervous or jittery • Cold, clammy, wet skin and/or excessive sweating not caused by exercise	• A rapid heartbeat (tachycardia) • Numbness or tingling of the fingertips or lips • Trembling

All the data in the table is available at WebMD.com website.

WAC Section	Commenter	Comment	DOSH Response
		As a former paramedic I frequently witnessed misunderstandings, patient denial, and misdiagnosis that all too often lead to tragedy. A person having a heart attack can look and act exactly the same as one suffering from heat exhaustion. Although heat exhaustion can be deadly, it is rarely so, but with a heart attack they are frequently deadly, especially when they go unrecognized and untreated or mistaken for HRI. I believe the emphasis of this rule is laudable but with the rule language, vague standards, and the suggested training curriculum I have to offer my opinion that this rule should **not** be become permanent until if and when it is rewritten to address these and other concerns. It can lead to tragedy; it can lead to confusion, and can lead to unjustified legal actions based on shaky standards or triggers.	
General	L&I – DOSH Staff	I cited the former thermal stress standard, 62-09013, both in agriculture and general industry settings perhaps more than anyone else in compliance. I mention that to say I recognize the then-vs.-now comparison of our new standard vice what I formerly cited for heat stress. The proposed new standard does not significantly enhance assessment or control of heat stress exposure. Elevated core temperature most accurately defines the medical condition of heat stress while ambient temperatures do not. The effort to make the new standard easier for employer compliance (by referencing approximate ambient conditions at an airport or other such temperature recording location perhaps several miles from the point of exposure) inserts several layers of assumption between scientific fact and appropriate action. The piece I favor is the recommendation for regular fluid intake which, if heeded, would have likely prevented the catastrophic consumption of 2 liters of water in a 10 minute time period that can and actually did produce a case of acute electrolyte imbalance. The new standard does not mandate water consumption at regular intervals as I understand it. Rather the employer must provide it leaving the worker the option to consume. In this case the proposed rule lacks authority to compel fluid intake. I see this rectified in either mandating the consumption (much as we mandate erection of ROPS as protection against tractor roll-over hazards) or not enacting the new rule as it puts a responsibility on an employer to provide without sufficient authority to prevent and protect. This is vague and disempowering for employers. This begs to make it clearer to enforce. Employers are inclined to create safety policies within rather than beyond legal mandates afforded under the WAC. Clarifying the consumption requirements supports	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes that the employer can establish a water break schedule that is most appropriate for their worksite.

WAC Section	Commenter	Comment	DOSH Response
		employers in formulating clearer policies that will prevent progression of minor symptoms to major adverse health conditions while sustaining productivity.	
General	Wayne Brokaw Inland Northwest AGC	We would like to see clear and concise wording n this document. We don't need words like extent feasible; other environmental factors or any combination thereof; scientific data supporting the table; temperature trigger; or other outdoor structures; physiological responses; reduce to extent feasible, relieved of duty, etc., and let's remove the "subjectivity" and "open for interpretation" wording,	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has updated the rule language to clarify requirements of WAC 296-62-095 and removed potentially subjective terms.
General	Jay Herzmark Washington Federation of State Employees, Local 1488	Thank you for making the difficult effort to put together a strong standard to prevent further illnesses and death from workplace heat exposure. I know helping protect workers from the dangers at work is hard, often thankless work. The members of my union and I appreciate your work on this issue. We would like you to add the following requirements to the standard. • A ban employer policies /procedures that have the effect of discouraging breaks and fluid intake. It does no good to train employees to take the breaks and drink lots of water if the employer punishes them for doing it. Quotas and piece rate pay are of ways employers discourage safe work. • A preference for engineering controls over procedures or personal protective equipment (PPE). Engineering controls are consistently more effective than either procedures or PPE and as such should be required when feasible. • A requirement that employers to do a through investigation of any heat related injury. They should make a reasonable estimate of the temperature, humidity, radiant heat load, wind speed, and workload at the time of the incident. Employers should also evaluate as possible the hydration of the victim, the clothing and personal protective equipment the victim was wearing, what type of work was being done, the degree of acclimatization and the schedule of breaks the victim actually took. They should also document the engineering controls in place and were they operating (If not, why not?), any administrative procedures that had been designated and if they were followed. (If not, why not?) Finally, the employer should document recommendations for preventing future cases of heat stress and the implementation of the recommendations. The Bloodbome Pathogens standard, WAC 296-823-17010, requires this kind of investigation. It is called the sharps injury log.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Current enforcement policy requires employers to allow employees to drink water as needed. If an employer interfered or tried to prevent the employee from accessing water, they would be in violation the requirement to provide water. Engineering controls are encouraged by the Department; however, the Department has retained the language in WAC 296-62-095 that allows the employer to select the method of protecting their employees that is most appropriate for their worksite(s). The Department encourages employers to investigate any injury. In addition, a preliminary investigation is required when employees suffer serious injuries in WAC 296-800-32020.
General	Terry Gresswell Kershaw Fruit & Cold Storage	The information and hearing today in Yakima was very informative. I do also have some questions that I believe should be considered. 1. It appears that there are currently Regs. in place that take care of the proposed	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related

WAC Section	Commenter	Comment	DOSH Response
		Reg. 2. In stead of regulating all go after the Companies that are not providing a safe work environment. What this does is says everyone is "bad" so we must regulate all. I do not believe this to be true. 3. Lets look at temperature. We have orchards all over the state and are many acres. Where does the temperature get taken from when we have people all over. If the temperature is ok in the shade under 96. However, the person goes to the "outside" of the shade to pick. Is a supervisor to place a timer on that picker? 4. I would like to know how many people have died of heat related causes during the same time and not being at work. I would bet that is many times the number of on the job deaths. 5. What do you do if employees are not drinking the "adequate" amount of water? An employer will get fined and that would not be fair. 6. Documentation appears that it will be a night mare. How do we train 300 people in one day that we may hire? Will they care, I doubt it! Again some of them may be with us for just a few days. 7. I believe that this cost of an estimated $923 is very low. Our supervisors would be running for water all day long. There must be personal responsibility placed on the worker. Government can not always say we do not know what is best for everyone. 8. I would propose that someone from L & I work in an orchard during harvest to see how it actually would work. It is easy to sit in a chair in Olympia and say this is the best thing. 9. I believe like the other speakers today indicated that training companies who in turn train supervisors to identify problems is the solution. 10. Economics: as margins squeeze and orchards are not producing because of cold weather, must be considered. 11. We all ready have many of these proposals in place. To fine someone because of documentation is crazy.	illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department believes most employers are committed to providing a safe work environment for their employees. These employers will likely be in compliance with the rules, and therefore will not be cited for violations of WAC 296-62-095. The Department has clarified the trigger temperatures in Table 1. The Department does not have access to public health statistics on heat-related illness fatalities that are non-work related. Information regarding public health may be available from the Department of Health – Vital Statistics at (360) 236-4300. Employees are responsible for drinking adequate water. The employer is required to provide the water.

WAC Section	Commenter	Comment	DOSH Response
			The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General	Mike Luzzo	On April 30,2008, a Public Hearing was held in Richland Washington concerning rule changes for Heat Stress Illness in an Outdoor Environment. This Public Comment paper is in response to the public comments asked for. If it has not already been addressed, please consider indoor access to the outdoor arena. Specifically garages or laundries or any other place where a door would be opened for ventilation or cooling purposes. Radiant heat often will effect the occupational working environment and frequent breaks may be needed. Please consider that heat stress can come from machinery that will generate high levels of heat such as in a paper mill or from plating processes. If the provided ventilation is not adequate, a worker can be exposed to higher rates of heat than normal. Emergency access to medical care may be needed. If a worker is injured, can access to medical care be afforded to expedite emergency care? This would include anything that a reasonable person would consider a reasonable distance to a hospital, clinic or health care professional to help someone suffering from heat prostration. An hour's drive may be all that there is, but can this be accommodated? Can a workload requirement be put into place that takes the following into consideration? That workload requirement can be light (shirtsleeve), moderate (a park environment) or heavy (road construction). Please consider these as part of a metric for determining work stress factors. Heat stress monitoring by other means that one employer could include a local radio station or farm cooperative. These would broadcast heat stress news at least 3 times per day. These measurements could be based on the ACGIH TLV Guidelines for Heat Stress or its tables. Such monitoring could include equipment (but not limited to), such as a RSS·214 WIBGET Heat Stress Monitor or something produced by Quest Technologies. Publications such as Lab Safety Supply can be accessed for examples of other equipment. The announcement of the rule change really was not well advertised. I read the Tri City Herald daily and never saw it. I really would have like 2 -3 more days to study these	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment. All employers are required to make sure first-aid trained personnel are available to treat employees if they become injured at work. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical Hazards Committee to develop a temperature action level that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at

WAC Section	Commenter	Comment	DOSH Response
		changes. For the record, I have 10 years of Industrial Hygiene related experience with the United States Air Force; as a military person (Bioenvironmental Engineering Technician). I also have 2 years Industrial Safety experience as a US Government employed civilian. This comment is not taken lightly as I wanted to study this more and review the WAC on this subject. We were also told that Washington is only the second state to consider this. My understanding is that many of Washington's rules and regulation mirror those of Minnesota. So precedence is important and I would like to have had more time to look these numbers.	http://personal.health.usf.edu/tbernard/thermal/index.html. The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee's clothing or PPE was determined as a result of Dr. Bernard's research. This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point. The WBGT formula is as follows: With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$ Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$ T_w= Natural wet-bulb temperature (humidity indicator) T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation) T_d=Dry-bulb temperature (normal air temperature) Notice of the public hearings was published on the Department's website on March 19, 2008 and was updated with the Seattle hearing information on April 24, 2008. In addition, the Department sent direct mailings to employers that may be affected by the proposed rule. The Department also distributed news releases with the hearing information to all media sources statewide and a distribution list of interested parties. In addition, the Department extended the written comment period from May 2, 2008 to May 9, 2008.
General	Mike Luzzo	I'm representing myself, and I was just sitting here during these comments, and I'm just going to run through these, and there are several questions I do have to ask. When you were looking at your study and talking about emergency procedures for a guy coming down and going to a hospital, are you going to look at reasonable emergency response times or something if someone has a heat stress injury and needs to get to a hospital and all manner of trying to help this person has been addressed -- are you going to make sure they're going to get some kind of -- I'm talking about even a clinic or something like that if you have a worker that is injured. When you're looking at radiant heat, I'm asking about workload requirements. Certainly with different injuries you have different workload requirements. Someone who is working in shirt sleeves is not going to be exposed to the same hard strenuous physical labor that someone who is working in construction and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Notice of the public hearings was published on the Department's website on March 19, 2008 and was updated with the Seattle hearing information on April 24, 2008. In addition, the Department sent direct mailings to employers that may be affected by the proposed rule. The Department also distributed news releases with the hearing information to all media sources statewide and a distribution list of interested parties. In addition, the Department extended the written comment period from May 2, 2008 to May 9, 2008.

WAC Section	Commenter	Comment	DOSH Response
		someone who is working with any type of lifting-type requirements. I do support the rule, and I do like some of the requirements. I do question why you only go with an outside source. You have some industries that work inside, like in the laundry industry. You have industries that work in garages with radiant heat sources that might have a problem. Now, having worked construction myself, I will tell you sometimes it is hard to get to a water source and, yes, you can bring a five-gallon jug, so let's require that. Anything else I will go ahead and just add to my letter. I don't know why you threw in this having to be done just by May 2nd, 2008, because I never saw the announcement of this rule. You're giving us -- today is April 30th. Effectively, you're giving us two days to respond to something like this. And I am going to ask if you're going to be serious about this rule, or if you're going to treat it as, for instance, the ergonomics rule was created in years past where it was a great rule and folks looked at it and said this would be nice, however we're never going to implement it.	
General	Gary Gregory Grant County Public Works	I just have two little comments or questions. I'd like to know what the cost breakdown -- what it's going to cost the employer. What are they talking about when it comes to the money spent? Is it water jugs, tents, whatever? I'd like to know what the employers would have to furnish to the employees. The second thing is that the gentleman -- well, I don't know exactly who said this, but I'd like to see templates for the policies and procedures, actually for anything that L&I comes across or is responsible for.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The Department provides templates for developing an Accident Prevention Program on its website at http://www.lni.wa.gov/Safety/Basics/Programs/Accident/default.htm.
General	Kirk B. Mayer, Manager Washington Growers Clearing House Assn	A major missing piece of the proposed Heat-related illness rule is a well designed “Helpful Tools” section. The rule talks about employer’s and employee’s responding to heat-related illness signs and symptoms yet the rule doesn’t specify how an employer/employee is to recognize them and/or differentiate them from various medical conditions such as a heart condition, food poisoning, allergy symptoms and/or potential exposure to pesticides, etc. Would you please send a spreadsheet that lists the various heat-related illness symptoms in comparison, allergy symptoms and to potential pesticide relates symptoms?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has prepared a chart comparing the symptoms of heat-related illness to pesticide exposure and heart attacks. This information is available online at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.

WAC Section	Commenter	Comment	DOSH Response
General	Marty Lyons Brace Point Railings	I am not against the proposed Heat Stress rule if there is data to support the need. While I hear a lot of opposition from trade associations, I don't know if this is a knee-jerk reaction or if the opposition is simply against change. Does L&I have data to support the proposed rule's need? Are heat-stress injuries so common that this issue has finally percolated to the surface? How would I find out how frequently these heat-stress situations occur? Where is the data that is used to support the proposed rule? Please let me know. I will be attending some of the scheduled hearings and want to know more about the issue beforehand.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General Comments - Opposed			
General - Opposed	Dan Fazio Washington Farm Bureau	Please accept these comments from the Washington State Farm Bureau Federation (WFB) on behalf of farmers and ranchers and our 35,000 member families throughout the state. Although WFB is opposed to the rule, we appreciate the efforts of all of the employees of the Department of Labor and Industries, from the Director on down, to craft a rule that is in the best interests of workers and employers. In particular, we would like to thank Assistant Director Steve Cant for his tireless efforts, over the last three years, to find a compromise position that we can all live with.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		The only area where we would question the Department's approach is the area of responding to the special needs of agriculture. Labor intensive agriculture is involved in an intensive struggle to compete in a global economy with nations whose wages and regulatory structure make it extremely hard for our farmers to compete. This is recognized by the Governor, who has convened numerous committees and task forces to propose ways to help farmers compete and win, the most recent of which is the "Future of Farming Task Force." Unless the Department of Labor and Industries recognizes that we have unsustainable rates of growth in wages and regulations, the good work of the aforementioned committees and task forces will be for naught. The inescapable conclusion, from the comments below, is that the Department must exempt agriculture from this proposed rule, and convene a task force to study the problem with regard to agriculture.	
General - Opposed	Dan Fazio Washington Farm Bureau	1. A cost benefit analysis will show that the proposed regulation is not warranted. WFB is opposed to the proposed heat related illness regulation because any rational cost/benefit analysis conducted by the department will reveal that there is simply no justification of this rule for agriculture. American labor intensive agriculture is caught in a death struggle with foreign competitors, who pay a fraction of the wage, and have a fraction of the labor and environmental regulations to contend with. Simply put, piling on unnecessary regulations like this one will cause the demise of American labor intensive agriculture. The cost benefit analysis provided here is insufficient for an agriculture industry that is competing in a global economy. We suggest that agriculture be exempted from the current regulation until the department undertakes an agriculture specific cost/benefit analysis. This is particularly true for small agricultural operations. Small agricultural operations are disappearing across our state. The Department, along with all other government agencies, should be trying to protect these operations, not heap on more regulations or requirements for written programs. The notion of a cost benefit analysis was explored extensively when the Department adopted its ergonomics standards. In that case, the Department made an excellent record for the case that regulation was needed due to the large numbers of musculoskeletal injuries and diseases among workers. In contrast, here the record is bereft of any mention	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The manner in which the economic analyses are conducted takes into account the impact to employers on a broad scale. The SBEIS is intended to assess impacts to small business that may be disproportionately impacted by the requirements of the proposed rules. The analyses the Department conducted were developed consistent with the statutory requirements for these analyses. Information on the methodology of the survey for the economic analyses is available at the Department's website http://www.lni.wa.gov/Safety/Topics/AtoZ/HeatStress/files/HRICostBenefitAnalysis011408.pdf. The Department is willing to provide consultation and additional assistance to agricultural employers in implementing the requirements of WAC 296-62-095. Information is available at the Department's website at

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		of the need for a regulation. In *Rios* v. *Department of Labor and Industries* 145 Wash.2d 483,39 P.3d 961 (2002), the Court explored the notion of a cost benefit analysis in the context of under regulation. The Court asked, how much regulation was enough, and concluded that the Department had discretion to decide this question, as long as its decision did not contradict the evidence. In *Rios,* the Department elected not to establish a regulation, despite a study it commissioned which suggested that a regulation was feasible and needed. In that case, the Court ruled that the agency decision to not adopt a regulation was arbitrary because it contradicted the evidence. In a similar manner, the Department here is attempting to establish a regulation when there is no study to suggest that it is required. In fact, the overwhelming evidence is that employers are providing training about heat related illness and adequate supplies of water, and there are too few reported cases of heat related illness to justify the cost of the proposed regulation. The Department is aware of its obligation and in its statement in support of the rule cites to the *Rios* decision and its need to study whether new regulations are warranted. The Department states that it began contemplating a regulation in 2005, when a farm worker collapsed and died in the fields, and the coroner's report stated that the cause of death was heat stroke. Our understanding is that the worker was suffering from a number of health conditions, and that a number of factors attributed to his death. Certainly toiling in hot weather was one of them. However, this case is instructive. Must an employer inquire into the health of workers? Mayan employer deny employment based on health conditions of a worker, when the worker appears qualified to perform the level of manual labor required by the job? The Department states that it conducted a study, and the study found that approximately 450 workplace claims in a 10 year period were attributed to heat related illness. Three points are germane: • The Department admits that it is unable to accurately determine the number of heat related illness claims. It could have been more than 450, it could have been less. The Department further admits that its system for tracking the cause of a claim is imprecise when the claim does not involve the payment of disability benefit and is a "medical only" claim. In fact, the Department does nothing to confirm or even spot	http://www.lni.wa.gov/safety/basics/Assistance/Consultation/default.asp.

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		check the results of medical only claims, and many are misstated. The Department concentrates its resources on severe claims where workers miss greater than three days work, and its statistics are certainly rigorous in those cases. • Our understanding is that the majority of the 450 claims were relatively minor, medical only claims. • 450 claims in a ten year period is an exceedingly small number. This needs to be put into context of the number of claims, and the severity of the claims. Farm Bureau requests that the Department publish its entire study and make it part of the record of this rule.	
General - Opposed	Dan Fazio Washington Farm Bureau	2. The record reflects that the current regulation is sufficient. Agriculture employers currently comply with heat related illness regulations in WAC Chapter 296-307, the agriculture standard. Before adding a new regulation with a new and different program, the department should analyze the sufficiency of the current regulation, first in terms of citations issued, and next in terms of injuries reported. If there are few or no citations, and few or no injuries, there is no need for a new, more complex program. Specifically, WAC Chapter 296-307-09509 requires an orientation about heat related illness. WAC Chapter 296-307-09512 is a detailed standard related to drinking water and requires that adequate supplies of drinking water be made available at all times. This is the essence of the proposed regulation. Does the Department have any reason to believe that agriculture employers are not following the current regulations? Farm Bureau has surveyed its members and has found only one in the past four years that has been cited for a failure to provide water, WAC 296-307-09512, or provide and orientation, WAC 296-307-09509. (The case cited in the purpose statement). Attached hereto is a public disclosure request, seeking to know any instance in the past five years of any farmer cited for a violation of this rule with respect to the orientation or the requirement to provide drinking water. In addition to the two regulations regarding agricultural field work in general, the agricultural standards address heat related illness in conjunction with the use of personal protective equipment (PPE). see WAC 296-307-10020; see also WAC 296-307-13045(7). The attached public disclosure request also specifies citations with regard to these two specific regulations. There are at least four current agricultural regulations dealing with heat related illness. Before the Department enacts another, it should provide some evidence that it is	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the requirements related to heat-related illness in chapter 296-307 WAC, Safety Standards for Agriculture. The Department believes that providing a comprehensive set of rules addressing heat-related illness would benefit employers and employees. The intent of the rule is to provide the same level of protection to employees across all industries. Chapter 49.17 RCW requires the Department to assure safe and healthful working conditions for every man and woman working in the state of Washington. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.

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		attempting to enforce the current regulation, and that, as the Supreme Court stated in *Rios* (citation above), there is a reason to believe that additional precautions are necessary. During the last two years, the Department has implemented an emergency regulation. Once again, there were no issues in agriculture. In fact, assistant director Cant, in an email dated April 27,2008, stated: "I would note that during the past two summers we found excellent cooperation and compliance among your [Farm Bureau] members and agricultural employers in general." Assistant Director Cant drew the conclusion that the excellent compliance record of agriculture was proof that agriculture employers would be able to absorb another heat related illness regulation. According to the Court in *Rios,* his conclusion should have been the opposite another regulation is not necessary.	
General - Opposed	Dan Fazio Washington Farm Bureau	3. The proposed regulation is unclear and ambiguous. The proposed regulation requires employers to "establish, implement and maintain" written procedures in several areas, including procedures that include "identification and evaluation of temperature, humidity, and other environmental factors." Translating this bureaucratic doublespeak, it appears that the Department is requiring the employer to develop a written program to tell employers when the rule kicks in. Farm Bureau requests that the Department drop the requirement for a written program. The Department's policy for many years was that employers only need to prove that its policy was effective in practice. Certainly, one way to prove that a program is effective is whether it is reduced to writing. Another way is to judge if it will work. Small farmers do not have time to write another program. This will lead to a citation for these farmers because they do not have the paperwork, regardless of whether the workplace is safe.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated by removing the requirement for a written program. The rule language requires the employer to address heat-relates illness hazards in the employer's Accident Prevention Program if their employee's are exposed to a heat-related illness hazard as set forth in WAC 296-62-09510.
General - Opposed	Dan Fazio Washington Farm Bureau	4. The proposed regulation is unlawful with regards to agriculture. The Legislature specifically required agriculture safety standards to be codified in one chapter, which is WAC Chapter 296-307. *See* RCW 49.17.041 The obvious reason for this requirement is so that farmers will not need to search in many different places to determine which regulations to follow. The Department's contorted explanation in this regard contradicts the plain language of the law, interpretations of the Board of Industrial Insurance appeals, and leads the department to attempt the absurd statement that the heat related illness regulation is a workplace health standard, not a workplace safety standard. In responding to Farm Bureau's inquiry, Assistant Director Cant wrote, on April 27:	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC.

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		RCW 49.17.041 references only "safety" standards under Sections (1)(a), (2)(a), and (3) in requiring an agriculture code; it does not mention the Occupational Health Standards in Chapter 296-62 WAC. In the current agricultural code, WAC 296-307-006 (3) specifies that agricultural operations are covered by Chapter 296-62 WAC. The relevant part of RCW 49.17.041 is as follows: (2) The rules for agricultural safety adopted under this chapter must: (a) Establish, for agricultural employers, an agriculture safety standard that includes agriculture-specific rules and specific references to the general industry safety standard adopted under chapter 49.17 RCW; and (b) Exempt agricultural employers from the general industry safety standard adopted under chapter 49.17 RCW for all rules not specifically referenced in the agriculture safety standard. (3) The department shall publish in one volume all of the occupational safety rules that apply to agricultural employers and shall make this volume available to all agricultural employers before January 15, 1996. This volume must be available in both English and Spanish. The Department is arguing that the heat related illness regulation is not a safety standard! The Department since WAC Chapter 62 contains Occupational Health Standards, and the RCW does not mention health standards, the Department is free to disregard the clear intent of the legislature that farmers not need to comply with multiple standards in multiple volumes of multiple rules.	However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.
General - Opposed	Dan Fazio Washington Farm Bureau	5. The Department's position has been specifically rejected by the Board of Industrial Insurance appeals. In the matter of *In Re Brewster Heights Packing, 2004.* In this case, an agricultural employer was cited for failure to comply with standards that were not part of the agricultural standard regarding refrigeration machinery. One of the citations involved the Chapter in question, WAC Chapter 296-62 (citation 2.1). The Department argued that these were not workplace safety standards, and therefore RCW 49.17.041 did not apply. The Board rejected L&I's argument, specifically in the case of citation 2.1 involving WAC Chapter 62. L&I did not appeal, and is therefore bound by the ruling. The Department's position defies the plain meaning of the statute, the Board's	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. This interpretation of the decision in this case is incorrect. At issue was whether or not the employer was engaged in “agricultural operations” for the cited activity and not whether the Department could cite the employer out of chapter 296-800 WAC, Safety and Health Core Rules.

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		interpretation, and common sense. There can be no doubt that the Legislature intended to exempt agriculture from the "general industry safety standard," and there can be no doubt that in fact, the heat related illness rule is a general industry safety statute. The Department cannot escape the law by calling safety rules another name, and the Department may not ignore the binding ruling of the Board of Industrial Insurance Appeals.	
General - Opposed	Dan Fazio Washington Farm Bureau	6. The further intent of the law is to prohibit duplicate programs which discriminate against agricultural employers. The proposed regulation is similar to, but different from the current agriculture heat related illness standard, resulting in farmers needing to comply with two different standards. At a tape recorded meeting with business stakeholders called by Department spokeswoman Jamie Scibelli in late 2007, Beth Hoffman explained that farmers would comply with the agricultural industry standard at all times, but the proposed rule (if adopted) only when temperatures and other environmental factors so dictated. Ms. Hoffman explained that the two rules imposed different requirements on agricultural employers. This interpretation was repeated by Cant at a meeting of business representatives with the agency director in April 2008. In another words, agriculture employers will be tasked with complying with two different rules, with two different requirements, on the same subject. Another reason that the Legislature requires all agriculture safety standards be placed in one chapter is to eliminate duplicate programs like this. The Legislature intended that farmers would need to follow one, and only one, heat related illness standard and therefore, the proposed regulation does not apply to agriculture. The Legislature has crafted a law to make it easier for farmers to comply with the mountain of regulations that threaten the existence of labor intensive agriculture in the global economy, and the Department has turned it on its head, to make it more difficult for farmers, by requiring multiple rules on the same subject. For the reasons stated above, Washington Farm Bureau respectfully requests that the Department follow the law, exempt agriculture from this rule, and convene a technical advisory group representing agricultural stakeholders to determine whether a heat stress regulation is needed in agriculture.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC.
General -	Corwyn Fischer Washington	I attended the stake holder meeting in Yakima last fall and submitted comments about the over whelming HRI rule and how such a simple rule can be inflated to reams of written	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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Opposed	State Farm Bureau Federation (WFB)	policy by an employer. You mention in the Scope and Purpose about develop a program to the "extent feasible" to reduce the risks of heat stress. How can an employer be feasible with a program that is five pages? I had asked that you look into the simple feasible rule that our southern state California has implemented. To my knowledge this has not been looked into. Small agricultural operations are disappearing across our state. L&I, along with all other government agencies, should be trying to protect these operations, not pile on more regulations or requirements for written programs. Safety recordkeeping and recording of training currently takes incredible amounts of time for employers and employees, especially in Agriculture, with which to comply. Items such as the Federal Worker Protection Standard, Chemical Hazard Communication, Machinery and Equipment Training, Field Sanitation Orientation (heat stress), Ladder safety training, PPE use training, the overall company APP, etc., reduces worker productivity and loses time and dollars that the employer will not recover and this HRI rule adds additional requirements for documented training. Agriculture industry has been complying with heat related injury rules for years. This is spelled out in many areas of WAC 307. I would like see from the department citations, fines, written reports from consultants or other documents where lack of protecting employees from heat related illness was address. There are at least four current agricultural regulations dealing with heat related illness. Before the L&I adopt another regulation, it should provide some evidence that it is attempting to enforce the current regulations. Only 450 or so injuries in the past 10 years that may or may not be contributed to heat is on record in the workers compensation program (medical only) is barely enough data to support this all of a sudden rule making crisis. L&I why don't you focus on a rule or hazard that is actually having a blow on worker safety and health? Seems that the rules Agriculture has been using to combat HRI is working. Do you not require employers to have a safety program "effective in practice"? Let the work of agriculture employers and employees speak - we are doing a good job, our safety programs are effective in practice and we do not need another rule. Washington Farm Bureau and myself respectfully requests that the Department follow the law, exempt agriculture from this rule, as defined in RCW 49 and organize a stakeholder advisory group representing agricultural to determine whether a heat stress regulation is needed in agriculture. This rule is unclear and puts another burden on agriculture	The rule language has been updated to remove the phrase "extent feasible" from WAC 296-62-095. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.

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		employers to comply with two rules from different documents. The past two years the department has required employers to follow an emergency heat related rule and to my knowledge agriculture had no problems from employees contracting HRI. This is a clear message that Agriculture does not have a problem with this type of illness or ever did in the past.	
General - Opposed	Jeff Lutz Washington Farm Bureau	I represent the Washington Farm Bureau, and we have 2000 members in our retrospective rating program. I'll make my comments brief. Real quickly, what I would request for the Department to do is to drop the rule proposal, drop the rule entirely, and utilize what other states have done, Texas, Arizona, Oklahoma, warm states that predominantly have work outdoors, places that obviously are much warmer than the state of Washington for a larger part of the year. What I would like to see the Department do is utilize the general duty clause, as OSHA does, take direction from them. Utilize rules that are already on the books. One of the questions earlier was from someone who asked about the rules in agriculture versus the rules in general industry. Ms. Hoffman and I could probably have some good discussions about the differences between safety and health rules and the intent of the legislature in 1995 when that was enacted, but I'll leave that for a later comment.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Jeff Lutz Washington Farm Bureau	My name is Jeff Lutz, I am the Safety Director for the WA Farm Bureau and I represent 2000 Ag employers via Farm Bureau's Retrospective Rating program and an additional 33,000 members supporting Ag across the State of WA who are Farm Bureau members.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		Here are my comments: • The Department should ***NOT*** pursue a HRI rule and in fact should follow suit to what 48 other States do as does OSHA, utilize the General Duty Clause and cite employers under existing standards regarding HRI. Southern states that have tremendously more HRI exposure potential, such as Texas, Arizona, Arkansas, Oklahoma, Florida, etc., all have much higher HRI potential yet do NOT have specific rules regarding HRI exposure. Those States wisely adopted the OSHA General Duty Clause to enforce HRI exposure as should Washington; we should NOT have another burdensome, stand-alone rule that also requires written procedures and recordkeeping for employers. • Recordkeeping and recording of training currently takes tremendous amounts of time for employers, especially in Agriculture, with which to comply. Items such as the Federal Worker Protection Standard, Chemical Hazard Communication, Machinery and Equipment Training, PPE use training, the overall company APP, etc., reduces worker productivity and loses time and dollars that the employer will not recover and this adds another rule requirement for documented training. • Ag already has rules governing field sanitation; the new HRI rule mimics to some extent the existing rules. No new rules are needed. • The Federal WPS requires HRI training for applicators and the new rule will duplicate that training and will require documentation above what is currently required under WPS. Again, loss of productivity, more recordkeeping and employee/supervisor training and monitoring. • The Department admits the lack of a problem by its own data; 446 HRI injuries in the last 10 years. Relate that to all hours worked in an outdoor environment and the percentage of injury to hours worked is miniscule at best, probably less odds of getting HRI than winning the lottery. If the Department wants to pursue rules that truly reduce workplace injuries data should be reviewed to find the number one leader of deaths and pursue regulations for that. Auto accidents account for the highest number of work-related deaths. Also, a recent report from L&I stated that the most injurious item in Ag was falls from ladders – by a ratio of about 4-to-1. HRI doesn't even come onto the bar graph when considering these two items (autos and ladders) compared to HRI injuries and illnesses, yet the Department is bent on a new rule. • As a matter of legal opinion, which has not yet (*stay tuned*) been tested in court, is	Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet of exceed the temperature action levels and will be need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness

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		the fact that State Law, RCW 49.17.041 requires ***ALL*** Agricultural safety standards to be in one book which is WAC 296-307. A 2004 case in which I was involved was heard before the Board of Industrial Insurance Appeals and the Board sided with the employer and against the Department regarding citations written under another standard WAC 296-62. L&I did not appeal, and is therefore bound by the ruling. Precedence has been set for a court showdown regarding the department enforcing standards upon Ag other than 307. The new HRI rule will fall under 62 and not 307 and this may be just the catalyst with which to seek court opinion on the 1995 Legislative intent. The Department cannot escape the law by calling safety rules another name, and the Department may not ignore the binding ruling of the Board of Industrial Insurance Appeals. • The Departments cost-benefit analysis and subsequent SBEIS was ***NOT*** geared to Agriculture and in fact ignores the needs of an industry that is caught in a global struggle for existence. A true Cost-Benefit Analysis, if done in Ag, would likely show limited to no benefit and sky-rocketing costs in lost productivity for producers trying desperately to survive – another regulation upon producers may be the final blow to an industry that can't pass along costs but are subject to an open marketplace. • The new HRI rule as stated will require employers to monitor temperature and humidity conditions, monitor worker attire (clothing), monitor worker water intake, monitor supervisors to assure they are monitoring workers, etc., more costs and lost productivity for Ag employers. • There are already Ag rules (field sanitation) that require Ag employers to provide drinking water to employees. The new HRI rule would require additional assurances that water is available, adding costs and lost productivity. No economic impact statement and/or analysis can discover the true cost of any new regulation. The Department must not put Agriculture at a disadvantage by adding yet another rule with written program requirements upon an industry reeling to compete in a global economy, to an industry that is cyclical at best, and to an industry that can't set its fee structure and pass costs along to the consumer. Agriculture more than any other industry, must rely on market influences and take what is given the producer, who by the way is the last person in line to get paid. More regulation will drive Ag to foreign countries, especially for minor crops, and we will all be eating lead-tainted Chinese foods in the near future should rules like this be enacted.	has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF).

WAC Section	Commenter	Comment	DOSH Response
		I respectfully request the Department to drop the rule proposal based on the above items and not enact a rule that will speed up the decline of Ag in this State. As stated above, there is no data to support the need for a rule, there are sufficient rules in place now to assure worker safety, and the department acknowledges that fact by its own data of 446 HRI injuries in 10 years.	When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity has been addressed in the development of the temperature action levels in Table 1 of WAC 296-62-09510. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining which temperature action level applies.
General - Opposed	Jeff Lutz Washington Farm Bureau	I would like to supplement my testimony regarding the illegality of the regulation as applied to agriculture. RCW 49.17.041 provides, in relevant part: . . . (2) The rules for agricultural safety adopted under this chapter must: (a) Establish, for agricultural employers, an agriculture safety standard that includes agriculture-specific rules and specific references to the general industry safety standard adopted under chapter 49.17 RCW; and (b) **Exempt agricultural employers from the general industry safety standard adopted under chapter 49.17 RCW for all rules not specifically referenced in the agriculture safety standard**.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort. This interpretation of the decision of *In Re Brewster Heights Packing,* BIIA #003-152 is

[71] WAC Chapter 296-307-09509 requires an orientation about heat related illness. WAC Chapter 296-307-09512 is a detailed standard related to drinking water and requires that adequate supplies of drinking water be made available at all times. Finally, there are different rules within the agriculture chapter to cover heat related illness when workers are using special clothing, such as personal protective equipment.

[72] For example, the proposed rule is not implicated until certain temperatures are reached, while the current rule is always required, and the proposed rule requires one quart of water per worker per hour, while the current rule requires that adequate quantities of water be made available.

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		(3) **The department shall publish in one volume all of the occupational safety rules that apply to agricultural employers** and shall make this volume available to all agricultural employers before January 15, 1996. This volume must be available in both English and Spanish. (Emphasis added). The plain language of the law requires that L&I exempt agricultural employers from any "general industry safety standard adopted under RCW 49.17" unless the rule is "specifically referenced in the agricultural safety standard. The new heat related illness rule is a general industry safety standard. It is not specifically referenced in the agriculture safety standard, WAC 296-307. Therefore, the plain language of the law requires L&I to exempt agriculture from the new proposed regulation. L&I will argue that its new heat related illness rule is not a general safety standard. With all due respect, this argument is without merit. The department recognized this fact in a case I worked on in 2004, *In Re Brewster Heights Packing,* BIIA #003-152. In this case, the department filed a number of citations against the employer. All were either dismissed by the administrative law judge or voluntarily dismissed, with prejudice, by the department. Both citations under WAC 296-62, the chapter at issue, were voluntarily dismissed. The Legislature is sensitive to the struggle of labor intensive agriculture in Washington. In order to help farmers comply with the many labor and environmental regulations, RCW 49.17.041 also requires that L&I "publish in one volume all of the occupational safety rules that apply to agricultural employers." The volume has been designated WAC 296-307 by L&I. WAC chapter 296-307 contains an adequate heat related illness rule.[71] Now, L&I is proposing another rule, outside the WAC chapter 296-307, and stating that farmers will need to comply with both rules. To make matters worse, the proposed regulation in WAC Chapter 296-62 is different in many areas from the current regulation in WAC chapter 296-307.[72] This is precisely what the Legislature intended to prevent: farmers being burdened with searching multiple volumes of regulations to find different regulations with regard to the same subject matter. In the Brewster Heights Packing case cited above, the department cited an agricultural	incorrect. At issue was whether or not the employer was engaged in "agricultural operations" for the cited activity and not whether the Department could cite the employer out of chapter 296-800 WAC, Safety and Health Core Rules.

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		employer for a violation of WAC 296-62-07178(1) (Respirators), and WAC 296-62-14110(3), (permit required confined spaces). Both citations were vacated with prejudice by the department, who recognized that the employer was exempt from WAC chapter 296-62. In summary, the proposed regulation is illegal with respect to agricultural employers. The department should obey the law and exempt agriculture from the proposed regulation. *Attachments*	
General - Opposed	Grant Nelson Association of Washington Business	The Association of Washington Business (AWB) appreciates the opportunity to provide the following comments on the Department of Labor & Industries' proposed Heat Related Illness Rule (HRI), date March 19, 2008. AWB has commented previously on two earlier drafts of the HRI rules that were adopted via emergency rulemaking procedures and our members have actively participated in the department's ongoing stakeholder processes during the last two years that have attempted to improve the rule and how it is implemented. Throughout the stakeholder process, in meetings and in written comments submitted by AWB and member organizations, the business community has consistently maintained that the rule is unnecessary and will burden employers with costly training and paperwork that will have little to no positive benefit in reducing HRI and related injuries. The rule will be especially onerous for agriculture and the construction industry and the department's Small Business Economic Impact Statement (SBEIS) reflects the fact that the proposed rule will impose disproportionably higher costs for small businesses. If adopted, the rule will undoubtedly lead to an increase in safety violations and needless fines that will distract from and reduce the effectiveness of more important safety issues and enforcement of existing regulations. AWB believes that the department has not demonstrated a compelling need to adopt another rule related to HRI, especially given the numerous existing workplace safety rules and procedures already in place that are designed to protect workers from all hazards in the workplace. The department already regulates heat stress for agricultural employers and regulations are in place for construction and for agriculture requiring employers to maintain an adequate supply of water.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs

WAC Section	Commenter	Comment	DOSH Response
		The proposed rule may also conflict with existing state statute requiring safety standards for agriculture employers to be codified in one chapter (RCW 49.17.041(2)(b)) and appears to contradict the intent of the Legislature toe exempt agriculture form the general industry safety standard. To the department's credit, the proposed rule does contain a number of improvements that are well thought out and appreciated by AWB and member organizations that have advocated for these changes. The proposed rule is clearer and easier to understand; includes and amended temperature table that is less confusing; includes a requirement for employees to monitor their own health and consume adequate amounts of water, and provides for an exemption for incidental exposure, among other improvements. The context of the proposed rule would make an excellent guideline to assist employers in determining ways to protect workers and meet already existing rules. Despite these improvements, AWB cannot support the proposed HRI rule. Our members request instead that the department focus on enforcement of existing regulations, continue its outreach and education regarding HRI and continue working in a collaborative manner with business, labor and other interested parties on effective training for workers that has proven to be successful in reducing problems in outdoor work environments associated with high temperatures.	throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Rachel Darlington	I wanted to take a moment to communicate our opposition the proposed new heat stress rule that is currently in the process of trying to be passed. We already have farmers complying with the current heat stress rules that are in place and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related

WAC Section	Commenter	Comment	DOSH Response
		wondering why new legislation is needed for a rule that is already on the books. Why is another even necessary? One other note, if the new rule is adopted my understanding that it would be illegitimate. The law (RCW 49.17.041) states that agriculture must be exempted from general industry safety standards. Agricultural safety rules are supposed to be placed in the agriculture safety chapter; I believe that the new rule is not. Please consider our comments while pursing this measure, as many of our farmers are already complying with the heat stress laws. To avoid confusion, we hope that L&I would step away from attempts to make farmers to comply with two different heat stress rules: when perfectly good agriculture Heat Stress rules are in place and the new rules, require different programs and procedures. We feel the current rules are proficient enough to protect workers who may be subject to heat stress conditions.	illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.
General -	Carolyn Redman	We are writing today to submit comments regarding the new Heat Related Illness Regulation. As a farm we are labor intensive and trying to compete in a global market	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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Opposed	Green Acre Farms, Inc.	where other countries do not have the wage requirements and labor regulations that we do. We are asking that you consider the fact that agricultural employers are already complying with the heat related illness regulations. Also please consider that our state government has tried to simplify things for the agricultural industry by having all regulations that apply to them in one location, the regulation that you are suggesting would involve a regulation that is not in that location, which would lead to agricultural employers not being aware of the regulation and being fined for not being in compliance. The main emphasis should be the safety of the workplace not whether all their paperwork is exactly correct. Having two separate regulations addressing the same issue is just going to complicate the issue, not simplify it. We are respectfully asking that the Department, follow the law, and make agriculture exempt from this rule.	RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.
General - Opposed	Representative Joe Schmick 9th District	I've read through these rules and I've also looked at the history. In 1995 you had a death of a lawn service worker. In 2005 there was one cleaning out a hops field. And then you called for an emergency rule in 2006. Two workers, a roofer and a pipefitter, died in 2006 that was heat stress related. In my mind although these things are tragic, it's not an epidemic. I call this a solution looking for a problem. The impact these things may put on small business is going to be expensive, and I just don't feel it's needed. Now, if you are talking about agriculture, they have some rules in there and they are working. In 2006 and in 2007 you had an emergency rule. Since that time you've had 988 citations pulling in $11,000 in penalties, and they were all for paperwork violations. Now, I just don't see that that's really helping the worker. I have a hard time with that. I guess, yes, it's a tragedy when people die from heat stress, but to put on another layer of regulations -- besides, for agriculture workers, everything having to do with agriculture is supposed to be in one section of the code. Now, you are going to have the code that's already there for heat stress and now you're going to have a different label in another area of the book that the people are going to have to refer to? The law requires that L&I publish all the agriculture rules in one chapter. Well, the new rule is not published in the agriculture chapter, so why does it apply? The farmers are following the old rules. It seems to me that	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.

WAC Section	Commenter	Comment	DOSH Response
		you should be enforcing what's already on the books without adding a new layer of regulation. I appreciate your time and your accommodation for my schedule. I'm very thankful. And thank you for the hearing and thank you for allowing me a couple of brief moments to make my points.	
General - Opposed	Amy Brackenberry Building Industry Association of Washington	We categorically oppose the adoption of this regulation. We believe it's complicated, it's unnecessary and it's costly. We believe the rule contains a number of implicit requirements, some of which we discussed during the question and answer session that we heard earlier. These are things that aren't specifically required in the rule, but employers are going to be forced to do anyway to prove compliance, and these are things like keeping temperature logs to demonstrate climate awareness, maintaining cooling stations in the event of a potential heat-related illness, evaluating environmental risk factors which could affect exposure. I believe that your own objective claims data doesn't justify the need for this rule. We've heard the SHARP figure from I think a study they did two years ago that said 446 claims out of 1.4 million in ten years, and that includes indoor and outdoor claims -- that's three-thousandths of one percent over a ten year period. That to me does not justify adoption of this regulation. I would be really interested to know whether in your cost benefit analysis you factored in when you talked about -- oh, where was it? The prevention of illness in the Cost Benefit Evaluation. When you're talking about prevention, are you looking at just those 446 claims, or are you factoring in your suspicion that a lot of other claims are heat-related but you just don't have the data to back that up? That's an issue that we have a lot of consternation with, the suspicion that you think more claims are heat-related, but we don't have the evidence to back that up because it was filed under another claim number. We believe the heat stress rule is disproportionate rule-making. It focuses on what is essentially a small problem at the expense of losing sight of bigger, more dangerous problems in the workplace. We're talking about things in this rule that could be best addressed by utilizing current L&I rules. We've always maintained that L&I should do a better job of enforcing the current regulations. You mentioned the Accident Prevention Plan required and that employers evaluate all hazards. That's one. The construction industry has a specific requirement for providing water for all employees. The agricultural industry has not only a separate water requirement, but they have a heat-related illness requirement. We believe current rules are available for L&I to use, and perhaps better	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify what the employer is required to do to comply with the rule. The Department believes there are no implicit or unwritten requirements in the rule. The rule language has been updated to clarify that employers are not required to maintain temperature logs. The rule language has been updated to clarify that employers are not required to provide misting stations. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to

WAC Section	Commenter	Comment	DOSH Response
		enforcement of those rules would be a better approach than adopting a new rule. I think that the bottom line is that the best approach is to utilize existing laws, require education for employers and employees -- I really like what the previous speaker had to say about an education outreach campaign. We think that's the best approach. We all want safer workplaces. We think this proposed rule is not going to protect employees any more than current rules, but it will unnecessarily drive up costs for small businesses, and the rule should not be adopted.	the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when

WAC Section	Commenter	Comment	DOSH Response
			issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.
General - Opposed	Bob Kinghorn	My name is Bob Kinghorn. I am the president of a general contracting company that employs about 150 people in both Washington and Oregon. I am writing to you to urge your leadership to restrain the continuing expansion of Labor and Industries into the working of our industry. In particular, today, the specific issue is the proposed heat stress regulations. The simple fact is what L&I is missing here is an understanding of the law of unintended consequences. Issuing requirements for heat stress protocols and creating requirements for "misting stations" or air conditioned trailers and the accompanying documentation and training that layers this proposed rule is a poor use of resources and a focus on a problem that largely does not exist. The presumption is that company's do not care about their people enough to provide to them water; in my 38 years in this industry, working throughout the US, Canada and abroad, I have never seen that. Perhaps this does happen in third world countries, but frankly I didn't see in third world countries either. Construction companies are vitally dependent on their workers well being as a strong stable dependable workforce is the core of our business. Can you imagine how insulting it is to know that a state agency presumes that our industry is so callous that we fail to provide fundamental requirements of water and shelter as needed? How would you feel if someone made such a callous accusation about your management of your people; and if that accusation is baseless as L&I data reports only .00311% of all claims statewide relate to heat stress. Labor and Industries is a state run monopoly that is restrained only by leadership. I am asking for your leadership to restrain bureaucratic growth and its intrusion into our lives. We are trying to make a living here and to compete effectively with the world marketplace. It doesn't help anyone to spend our time and effort documenting that we are preparing for	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that employers are not required to provide misting stations or air-conditioned trailers. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-

WAC Section	Commenter	Comment	DOSH Response
		problems that do not exist as would be the case complying with the proposed heat stress protocols.	66-SHARP or by email at SHARP@lni.wa.gov.
General – Opposed	Jim Hjelt Skagit Roofing	Heat Stress Rule is not all bad but could be toned down some. I oppose the rule as I understand it. In order to create a safer work environment common sense issues, such as heat stress, should be taught by those competent to teach. Most contractors may not be qualified to teach such things. This may be better achieved by initiating a new section within the present first aid training we receive and update regularly. This would allow us to document our compliance in heat stress education and give everyone consistent training. As far as the required paperwork added to our jobsite safety plan, please keep that to a minimum - but poignant. We added 4 pages last year when the heat stress rule was initiated. The proposed "environment monitoring" section seems a bit much. We are not scientists, we are humble construction workers.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the trigger temperatures at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness.
General – Opposed	Gregory Johnson Abstract Electric	Good afternoon. I would like to provide some input on the proposed Heat Stress Rule. While it is very smart to both be proactive and reactive to the dangers this rule addresses, it seems extremely costly and time prohibitive to enact this rule as it is stated now. Over the past couple of decades I have dealt with numerous companies and we have found ways to keep our teams safe without the massive L&I oversight. I encourage change in the area of heat related incidents but am very opposed to this broad mandate. I do find many of the ideas helpful but let's not confuse helpful with mandatory. My suggestion would be to provide both guidelines and workable systems that can be tailored to various industries. This would promote a solid plan that could be put into effect with speed and effectiveness. No one has the ability to keep track of all the weather conditions in your plan and expect a profitable situation! During the times we find ourselves in, it is even more imperative that we are careful to cut all waste out of any given business. We have enough burdens to deal with in Washington State already! In conclusion, please review the ideas & concerns I have expressed. We cannot meet this harsh of a law! Let's instead create a system that is useable and will fit into business without stifling business. Your thoughts would be appreciated.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the trigger temperatures at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness.
General	Nancy	My husband owns a small roofing company in Seattle. There are many days when I ask	The Department appreciates the time taken to provide this comment and recognizes the

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- Opposed	Neisinger Associated Roofing, Inc.	myself why we own a small business in a state that clearly dislikes small businesses. So far, I don't have a good answer. And the new proposes to the Heat Stress Rules are just one more nail in the coffin of small business. Regarding the Heat Stress Rule it amazes me that as an employer I could know how my employee is feeling in hot weather. Prior to the "rules" we provided a steady of water all day. Employees who felt the need could sit in any of the vehicles with the air conditioning on to cool. We have the scarves available that cool the back of the neck and bring down overall body temperature. But, by its very nature roofing can be truly a "hot" job. The Department of Labor and Industries along with our legislators could very well be putting us out of business even though we have always provided our own form of heat stress rules - without benefit of government intervention. Rules that are implemented (like the heat stress rules) that assume that every employer and every employee is of lesser intelligence frost me to the very core. I would think that L&I would have much better things to do - such as increasing their productivity and lowering their overhead expenses, than to take on yet another set of regulations determined to punish small businesses. I just get so frustrated at my inability to make any constructive difference regarding the plight of small business. A few years ago I made some constructive suggestions to L&I and the only thing that happened was that our company was placed on a "hit" list. The L&I inspectors are on site at many of our jobs - some even before we've started. It makes me wonder. We will continue to provide all of our employees with enough measures to ensure that heat stress should not be an issue. What we cannot and will not do is to police their activities the night before going up on a hot roof. Because we don't police the employees, we are at a loss as to how we can really provide for their safety no matter what we do on the job site. Does anyone have an answer for that? We can mitigate but not dictate. And hence our frustration.	concerns and opinions presented. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. The required training is intended to inform employees generally how personal factors can affect the risk of heat-related illness.
General - Opposed	James A Nevin Graybeard Contracting LLC	I have a small sized General contracting company in the State of Washington. I understand that L&I is in the process of implementing a new Heat Stress Rule. This rule will require us (the employer) to develop and put in place a plan to monitor the weather conditions at each work site and what actions to take if certain criteria are present. It sounds like I will be expected to be present at each job site through out the day to see that my employees are not exposed to excess heat. If they drink enough water and are able to find (or even provide) a cooler place to work or get out of the Heat. Etc.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors:

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		I want you to know that: 1) I am not a medical professional so other than common sense I am not qualified to make such a plan. 2) I have worked in the outdoor construction industry in this state for 35yrs. Only one time was heat a real issue and when I felt myself being adversely affected by the heat I sat in the shade of a tree and put a wet towel over my head. Problem went away. 3) I do not have time to get all my tasks completed now. I do not need another group of responsibilities that require me to perform functions unrelated to completion of my projects. 4) I already tell my employees to be sensible when working in the heat. They can (and do) bring a large jug of water on their own. They also are told they can work split days where they work early in the day -stop when the heat is high and come back later in the day when things have cooled off some. 5) It is getting very old having the "mother state" making up new rules that require me to do things that are not necessary. Then coming around to the job site looking to assign a fine for failure to comply. Some things can be taken care of with out the heavy hand of the "state". Why not send out suggestions for heat related situations and "ask" employers to pass them on to their employees. Please reconsider making this another enforceable rule of the "state" that requires us to watch our back rather than work on the job at hand.	• For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the trigger temperatures at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Jim Bjorkman M and M Transport, Inc.	In regard to the proposed Worker Safety Rule on Heat Related Illness 1. You are implying that workers are too stupid to know when to drink water or when they are too hot. I take exception to this. Workers in this state are smart enough to know when to drink water. They do not need a nanny state official to tell them under what conditions water must be taken. This has to be the dumbest proposed rule since ergonomics. 2. Per reports, only 450 cases have been reported in 10 years. Aren't there better things to do with your time than think up costly rules and regulations for employers? How can this be a serious problem if only 450 cases have been reported in the last 10 years? 3. It is estimated it will cost up to $40,000 per year for our size employer (about 70 employees) to comply with this rule. We have been in business since 1977 and have never had this type of claim. We have had more L& I claims from employees being hit by uninsured motorists, drunken motorists, etc., but nothing is done about this. Unlike the government in this state that can just raise taxes at a whim, we will have to increase our rates which is tough to do with the current price of diesel or cut costs. The main cost to be cut will be wages via layoff of employees, fewer hours, etc... 4. What employers would really like if for your department to concentrate more efforts on	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state.

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		fraudulent L&I claims. 5. Under the proposed regulations, workers on hot days will spend all of their time walking back and forth to get water and the employer will just have to allow this to happen. Maybe the state can afford this type of productivity, but in the real world, employers can't. 6. Simple, easy to implement and effective is an oxymoron when said by L&I. Consider what employers will have to do to comply with these rules each day and almost hourly since almost anything can be considered an environmental factor: ▪ *determine what the employee is wearing, is it cotton, is it wool, does it have holes in it,* *will they be wearing gloves, how long will the gloves be on,* ▪ *are clothes gortex, are clothes breathable material, will he take clothes off, will he put more clothes on,* ▪ *will he have to put on different safety gear for different times in the day,* ▪ *how much sleep did he get,* ▪ *is he sick,* ▪ *did he drink alcohol the night before, how much alcohol did he drink,* ▪ *the temperature, the humidity, changes in daily temperature,* ▪ *changes in the strength of the wind, changes in the direction of the wind,* ▪ *changes in daily humidity,* ▪ *changes in where the employee is at,* ▪ *changes in whether the employee is in the sun or in the shade, or if the clouds go away, or the clouds cover the sun, or the* employee is going between sun and shade ▪ *the temperature of the equipment around him,* ▪ *the employees personal ability to handle heat* ▪ *the temperature of the surface he is working, changes in the surfaces that an employee will work on, is it dirt, is it wet dirt, is it mud, is it concrete, asphalt, etc.,* ▪ *did the employee drink the water assigned to him given the daily conditions (oh good, a water drinker monitor),* ▪ *how much does the employee sweat,* ▪ *how much does the employee go to the bathroom,* ▪ *is the employee on medication (legal or illegal) that can affect his body temperature, water retention,* ▪ *Is the female employee at that time of the month (serious, this affects the woman's body significantly at times),* ▪ *Length of hair, is the employee bald, does the employee wear a hat, what type of*	Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost byproviding training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The Department acknowledges fraud costs the Washington State workers' compensation system millions of dollars each year. Employers, employees, insurance carriers and Washington consumers pay the cost of fraud in lost jobs and profit, lower wages and benefits, and higher costs for services and premiums. Workers' compensation fraud can be committed by employees, employers, health care providers, attorneys and others. The Department encourages the public to report fraud by calling the Report-a-Fraud Hotline **at** 1-888-811-5974. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their

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		hat, does he take it on or off, does he wear a hard hat, ▪ *Age of the employee, prior history of heat illness* ▪ *What type of shoes do they wear, are they boots, steel toed boots, leather boots, canvas boots,* ▪ *Wool socks, cotton socks, double socks,* ▪ *What type of gear will they have to normally carry, small tool belt, harness, knee pads, double kneed pants, carhartt pants, overalls, what type of overalls,* ▪ *What happens if the employee is reassigned to a different duty that day that has different conditions than what was planned out in the morning (things do change in the real world),* ▪ *Difference in temperatures between inside construction job sites and outside,* ▪ *What if another employer brings something on to the job that affects the surround temperature (for example a paving crew arrives a day early and starts paving in the morning and affects the temperature of the people working near the paving),* ▪ *Does the employee always wear long sleeves due to a medical condition,* ▪ *Does the employee like to get as much sun as possible for a good tan,* ▪ *Does the employee wear sunscreen,* ▪ *What if the equipment normally operates at 150 degrees and due to whatever conditions, operates at 180 degrees for awhile, what if the equipment is not the employers equipment, do you have to monitor the temperature of that equipment,* ▪ *Employees will be able to get water anytime they want just by saying I feel a heat stroke coming,* ▪ *What is defined as working outside? Is the employee considered to be outdoors if he is driving a truck? What if the sun is on the passenger side of the truck? What if the sun is on the driver side of the truck? Is a mechanic who works inside a ship considered to be outdoors? What if the mechanic has to go outside to work on a truck? Is there a time limit once you go outdoors before you are considered outdoors? What if the inside of the shop is hotter than outside* ▪ *What if the employee job requires them to work alone (say, an employee that mows grass for a golf course), do we have to hire someone to monitor them?* ▪ *What if an employee fails to recognize the signs of heat stroke?* ▪ *What if an employee has a salty lunch, drinks pop, drinks Gatorade, etc.?* ▪ *What if an employee is subject to heat stress at 65 degrees and your rule is 77 degrees?* ▪ *What weather forecast do we use? What if the weather forecast is wrong? How many times a day do we have to check the weather forecast? What do we have to check in the weather forecast? Your rule states check the weather forecast and temperature. It does not state check the weather forecast temperature. It*	worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.

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		states weather forecast AND temperature. So what do we have to check? Who is going to define what we have to check? ▪ *What is the definition of preventative measures? Who is going to define this?* ▪ *What is definition of increase the volume of water provided to the employees? Who is going to define this?* ▪ *What is the definition of respond to any employee with symptoms of the illness? Who is going to define this? How can you as an employer respond to a symptom if the employee is working alone at the time? Again, the employee mowing the grass at a golf course.* ▪ *What is the definition of a symptom of illness of heat stress? Who is going to define this? What if an employee gets heat stress with not symptoms? Do we have to get a medical degree, EMT degree, etc., to determine this?* ▪ *What is defined as working outdoors? Who is going to define this? All employees are outdoors sometimes.* ▪ *Does this Regulation cover break periods and lunch? What if the employee sits in the sun during lunch?* ▪ *You want us to train employees to recognize the signs, symptoms and risk factors of heat related illness and what to do if someone has the symptoms. However, your original thought is employees do not have enough brains to drink water when they are thirsty or hot. So how can these stupid employees be trained to look for symptoms of heat stress when they are not smart enough to drink water when they are thirsty or hot?* ▪ *Should we have heat monitors on each employee to determine at all times if they are in the safety range, should these monitors have alarms, what if the employee disables the alarm, maybe the alarm should have an alarm that off if it is tampered with,. . .* In a nut shell your proposed regulations are impossible to comply with. Further, the history of your agency is only to make rules tougher once the original set is in place. How can an employer even document all of these above items? 7. Our Policy, while not technical in nature, or put forth by a safety specialist, or a bureaucrat is quite simple. When you are thirsty and or hot, drink water and or cool off. Imagine that, we trust our employees to have enough brains to drink water when they are thirsty or hot or get out of the sun to cool off. 8. I agree employees need to be educated about heat stress. Give them a simple one page handout. But the employee needs to be responsible for himself during the work	

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		day. If an employer abuses employees, go after them. Don't punish everyone for a few bad apples. Your proposed rules go way too far, will cost employers thousands of dollars, put all of the burden on the employer, open employers up for fines and penalties for failing to have written plans in compliance with rules and require the employer to treat the employee like a moron. To be honest with you, if I had an employee that was not smart enough to know when to drink water, I surely do not want him driving a 105,000 pound loaded tractor/trailer rig on the freeway at 55 miles per hour. Let's put common sense back into the world. This proposed rule is as far from common sense as can be.	
General - Opposed	Charli Hamaker Turbo Mechanical Inc.	I am emailing to strongly object to the proposed heat stress rule for contractors. As a business owner, I find this rule to be very cost prohibitive to a small business, as well as rather ridiculous in light of the extremely small number of L & I claims there are related to heat stress. This rule is pushing the state into the realm of "big brother" legislation, where every action of every human is monitored because the state assumes we have no brain power of our own to come out of the "heat", in this case. This will cause untold financial and time-consuming hardship on small companies who will have to hire expert consultants or special employees to do things like figure the relative humidity or the radiant heat from the sun, or set up special misting stations, etc. Please consider what this will portend for small contractors in the future. Don't let the State of Washington use this proposal to take away more freedom and ability of entrepreneurs to make a living, not just for ourselves but for the many workers we employ, the families we support, and the customers we serve. Small companies are the heart and soul of business – after all, even Microsoft began in a garage. The state cannot continue to lay this type of expense on small contractors, where the justification is so small for doing so, and still hope for growth in wealth and employment. Every time a small business fails due to things like this proposal, the state loses tax dollars. Consider it!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity and other environmental factors have been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. The rule language has been updated to clarify that employers are not required to provide misting stations. The SBEIS estimates that costs for implementing the proposed Information and Training

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			requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Steve Williams Steve Williams Custom Homes, Inc.	I am writing to voice my opposition to L&I's proposed new Heat Stress Rule. I have read the details of the proposed rule and find them to be an unfair and impractical burden on my Company and the Construction industry. My employee's safety is extremely important to me. My company always puts safety first in all of our operations. I do not see how requiring my superintendents to log temperature, air movement, surface conductivity and weather they are working in, as well the sun, shade, or sun and shade, makes them any safer. We already provide a fresh water supply, and frequent breaks during the warmer months. If L&I is going to impose any new rules, they should be rules that truly protect employees, and that people like myself would stand behind and enforce because it is the right thing to do. The Heat stress rule does nothing for the employees and costs the industry too much money. Please do not allow this rule to become policy.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that employers are not required to maintain temperature logs. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. The rule has been updated to simplify the application of the trigger temperatures in Table 1 of WAC 296-62-09510 by removing the differentiation between direct sun and shade.
General - Opposed	Faith Smith	I am writing this letter to respectfully express a different view on the recent heat stress rule. Myself, and most of my family and friends are employees of privately owned companies and to this end I respect the fact that L&I is trying protecting all of us, but unfortunately you are squandering money and time on common sense issues that are simply a waste of the tax money we diligently pay into the system. I have the responsibility in my job to assure the safety of 45 electricians by being a	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule has been updated to simplify the application of the trigger temperatures in Table 1 of WAC 296-62-09510 by removing the differentiation between direct sun and shade.

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		supervisor and a safety director. One of those electricians is my husband. During the day to day duties that an electrician performs they must constantly be observing life threatening safety hazards working with electricity and on construction sites while performing their work under strict installation codes. All employees are supervised by trained, state tested and certified electricians. We are required weekly to train and meet on safety topics and daily we assure the health of our employees. In this industry common sense and education keep people alive. The fact they must observe sunlight exposure and be directed to drink water every 15 minutes is ridiculous compared to the constant hazards they observe and work around moment to moment. At some point employees must also be competent enough to make decisions to follow procedures to be safe. I do not entirely disagree with the fact that people need to be trained on heat stress and know how to avoid it and treat it. What I do think L&I should do is get more involved with the labor trades that this rule really affects like residential roofers, painters, agricultural workers, concrete workers and start asking them to take Continued Education Courses that include this type of training. Make sure that these people are competent and aware of their rights and hazards on the job site by assuring they have L&I approved classes. The money that L&I is trying to make of off citations to any employer not standing outside looking at their employees skin and holding their cup of water could be recouped in certification and education fees just like the trades of HVAC, electrical and plumbing. Possibly some very competent workers would be the result of mandatory certification and training. We all deserve to have safe and productive worksites but L&I is being counter-productive and if you really want to see safe worksites make sure the employees are also investing in their own safety through certification and education.	The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General – Opposed	Tana Litwin Aman Inc. General Contractor	The latest proposal from L&I will also require employers to carefully monitor the following conditions on every job site: o Temperature o Whether the workers are in direct sun, partial sun or shade o Relative humidity o Radiant heat from the sun and other sources o Conductive heat sources such as the ground o Air movement o Workload severity and duration, and o Amount and type of clothing worn by workers (i.e. "cotton" "vapor barrier" etc.) My concern with this type of rule is the additional responsibility Owners are required to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their

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		take to ensure employee health and care, removing employee responsibility for their welfare. The additional cost, involving man hours and equipment to meet requirements of this rule would add to overhead cost that then are passed onto customers to ensure small business can continue to operate. These price increases would be prohibitive to a growing business environment, as we already are seeing slowing in construction industry due to housing market decline nation wide. Please consider the negative effect of this rule on business and do not put this into effect.	worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels.
General - Opposed	Jerry Mutal Lorna Barlow Becky Hines Linda Stephenson Signature Custom Homes	I am writing to let you know how much I hope you will vote against the proposed Heat Stress Rule. I am a small business manager, with 13 employees, and we have been in business for 21 years. In that time the requirements that the state of WA has imposed on business owners has tripled my cost of compliance. The work environment has not changed, we have always provided good working conditions—But the cost of proving that is terrible. Please please consider that the cost to me to comply with this law, will probably run between $500 and $600 per month, enough that I may be forced to let one or more employees go, and that is not good for them or the state. The summer conditions in this state are far more pleasing than states like Texas, Arizona, Florida, New Mexico, etc. and none of them think it is necessary to add a costly and ridiculous law to their books. Asking my employee to stop whatever he is doing, to take a drink of water every hour may cause more accidents, not less, especially if he is working on a ladder, or a roof. Temperature logs---just more ridiculous bookkeeping that don't mean a thing. This state is already one of the most unfriendly states in the union for small businesses—please don't make it more so. We have laws already on the books that require adequate water supplies, mandatory rest periods, and first aid training for all workers. Why add more to that? Please vote no	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that employers are not required to maintain temperature logs. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.
General - Opposed	Curt Riddle Riddle Construction and Design	In light of the proposed rules on heat stress, I wish to express my opposition, and ask for your help in not creating more record keeping requirements. In the movie Forrest Gump, Forrest the marathon runner made the observation, " When I was tired , I slept. When I was hungry I ate". Let me add, When I'm cold I dress warmly, When I'm Hot I dress with lighter clothing, and when I'm thirsty I drink water.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. These employers will likely be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095.

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		I don't mean to make a joke out of employee safety, The men I Employ, work side by side with me. We frame houses in all kinds of weather conditions, and also remodel existing homes. The men in addition to being my friends are also an asset to my company and work. I have great respect for them and would not do anything to cause them harm. We keep a large cooler of water on the job, and some prefer to drink sport drinks also. When the cooler runs dry, we fill it back up. When we are hot we take a break in the shade. If it gets too hot or cold, we stop work. Even Forrest Gump could figure this one. I dread having more record keeping requirements, that if not up to the "inspectors" scrutiny, would result in fines and penalties. What is this another revenue stream hiding under the pretence of employee safety? If I am 2 quarts of water short in our cooler, I'll be subject to a fine! Every thing I have read points out, that while a problem, it is one that affects very few. No contractors I know would put their employees in harms way. Why penalize all for the stupidity of a few? Instead focus on finding those few and dealing with them. Is it the mind set of L&I ,that we Washington Employers run "sweat shops"? In addition to being a carpenter, business man, accountant, safety monitor. now I need to add to my resume "meteorologist". I feel the rule is an outrages over-kill. Leave this to the men and women who work in the field to determine their own needs. I certainly don't need an inspector driving up in his air conditioned car, and telling me how much water I should be drinking. Thank you for your time listening to my rant, I'm very frustrated by the possibility (likely hood) of these new requirements.	The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method is place for refilling water dispensers. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.
General - Opposed	Jason Ding Roof Toppers, Inc.	I am writing you today in opposition of Washington State LnI's attempt to permanently adopt a heat stress rule. As the Safety Manager for a roofing company, I know all about the dangers of summer heat which our employees face. The danger of dehydration or heat illness is real, however, placing the burden on employers to be responsible for their own employees common sense in staying hydrated is a ridiculous proposition. As an employer, we gladly supply our employees with water which they can take with them to job sites. Our employees also have enough common sense to bring water themselves, even during the winter months when we have not been "required" to supply them with water. Our employees also have enough common sense to drink water when they are thirsty during the course of a demanding summer work day. The expectation for employers to "monitor" the environmental risk factors at each of its	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature or other environmental risk factors. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF).

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		work sites is both unrealistic and unnecessary. If it is hot, it is hot. I do daily job site inspections to see how our employees are doing and if they are working safely. It is not a good use of my time to watch weather data each day to determine when a heat stress rule is in effect!! It is also not a good use of my time to adopt a heat stress policy and provide the training to my employees on a topic which they all feel is quite simple: drink water when it is hot! If employees view the training as common sense and unnecessary, how will it help provide a better, safer workplace for them? I have read that southern states such as Oklahoma, Texas, Arizona, etc.. do not have heat stress rules in place. This makes me question even the validity of adopting such a rule in Washington State. I would employ that my tax dollars be used more effectively in keeping employees safe by enforcing the rules which LnI already has in place. Although our employees consistently work safely and use proper fall protection equipment, safety glasses, proper clothing, etc., I see numerous other trades on our job sites who do not comply by the same standards, which is a huge de-motivator for our employees to work safe. If LnI would spend more money enforcing its current set of rules instead of sitting behind a desk writing new ones, the employees of Washington State would be better served. A perfect example of this is what I have read from BIAW. Apparently, the two employers whom had the unfortunate experience of witnessing their employee's death due to heat illness where in violation of numerous safety rules and were not providing what LnI considers a safe workplace. Why would an employer such as this who is already ignoring safety rules suddenly stop ignoring them when a new, more controlling rule such as your proposed heat stress rule happens along? This is unrealistic and places needless burden on employers who do follow the rules because they care about their employee's safety. I still challenge Washington State LnI and DOSH to better enforce the rules which are currently in place to provide better work place safety rather than adopting new, more controlling rules that cost employers more of their dwindling profits during our challenging economic times. Overall, the concept behind the heat stress rule is a solid one: better protect employees across the state and provide a safe work place for every Washington State worker. It is the implementation of these rules and how encompassing and controlling these types of proposed rules are that I believe will hurt employers and employees alike due to unnecessary costs and controls over employers. I ask, where is the line between providing realistic protection/enforcement of a safe work place versus placing unnecessary burden on employers and employees on topics as simple as drinking water.	When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General -	Daniel and Jessica Layton	I am writing to inform you of our opposition to the proposed Heat-Related Illness Rule as it is written.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed	Inland Arbor	We believe that our workers and humans in general are a conscientious folk with intrinsic self-preservation instincts. We disagree with the legislation of such a common sense behavior. To assess the world around us, take off a layer or drink more water is to be assumed. We have read your reasoning behind the proposed legislation. We agree that the deaths stated are surprising and regrettable, but don't believe this worthy of the blanket burden on small business owners. We are for the inclusion of (and already implement) heat awareness in our safety practices, but the documentation of daily (hourly? to the minute?) weather analysis would be a ridiculous burden for this small company. Please take our comments into consideration.	The employer is not required to monitor the weather. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness.
General - Opposed	Karen Cain	My husband and I own a small business in the air conditioning and commercial refrigeration industry. We're licensed, insured, bonded contractors. Our customers include shopping malls, grocery stores, mini marts, school districts, colleges, and county buildings including jails. We're the ones who go out on those hot summer days to fix the air conditioning so everyone else can be cool. We're the ones the stores and schools call when their walk-in cooler or freezer is out and they stand to lose tens of thousands of dollars in product if we can't fix their cooler or their freezer in time. My husband has worked in the industry for 20 years, and is one of the technicians working outside on those hot summer days. Our employees are like family to us. We wouldn't send them out to do a job if we thought it was going to hurt them. We already take extra precautions in hot weather and provide them with all the water they want, and have them run sprinklers on hot rooftops. If this regulation keeps us from sending our techs out to fix air conditioning and refrigeration during the hot summer months when it's most likely to break down, two things will happen. One: when our customers find out it's an L & I rule keeping us from working on their equipment, and they lose hundreds of thousands of dollars of product because of your rule, they won't be suing us because we're just following your rules, they'll be suing you. The second thing that will happen is this: When our customers find out that the licensed, insured and bonded contractors can't do the work for them, they will find somebody who is not licensed, insured and bonded, and have them do the work. You will create a black market, underground economy in this industry where only unlicensed	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		contractors can work in the summer. And L & I will get less money because unlicensed contractors don't pay taxes. You will be taking our customers away from us and handing them to the guy down the road who doesn't follow any rules or regulations. You will be cutting our throats and your own too. Is that what you want? As for the documentation requirement, our service area covers 6 counties in 2 states. With 6 employees working at up to a total of 30 different job sites each day, it is impossible for one supervisor to monitor all site conditions for all employees. We would have to hire multiple full-time workers just to monitor the conditions on the job site, which is unreasonable for a small business. Alternatively, to have our technicians perform the time-consuming documentation would mean that the next customer with thousands of dollars of product at risk will have to wait that much longer. This is surely not your intention, but it will be the result.	
General - Opposed	Janis Richart Richart Builders	Our company will not be able to attend the public hearings regarding the Heat Stress Rule and therefore I would like to raise concerns through e-mail instead. As with the ergonomics rules that were proposed a few years ago, it seems that over regulation at a very high cost instead of common sense rules or simply enforcing those rules already on the books are being proposed. As a contractor that is very involved in employee safety issues, we have been able to address heat issues without stifling government rules by just using common sense. Washington is not a state that is extremely warm, so therefore it is not hard on the few very hot days to start early and get off early as well. On days that are too hot we do not allow our employees in attics or other areas that retain high heat. If the conditions will be extremely warm we pull off the job. With the implementation of these new rules many new steps will be required to show that we have complied with your rulings. We will need to keep temperature logs, have on site cooling stations, and evaluate environmental risk factors. These new laws will be cumbersome and very expensive to implement. We do not understand the rationale to go to new rules when current laws for employers in construction already require first-aid training, an adequate supply of water, and mandatory rest periods for all workers. For those few employers that do not follow common sense laws already in place, this new ruling will most likely be ignored. For those of us that follow the current laws, we would comply at a very high cost. This does not make sense!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to

WAC Section	Commenter	Comment	DOSH Response
			abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The rule language has been updated to clarify that maintaining temperature logs, cooling stations, evaluating environmental factors are not required.
General - Opposed	Bill Tucker Lakewood Ford	I have heard discussion about this new rule on the radio and in two other private meetings. I wish to add my comments to the record and I thank you for allowing me to submit this letter. This rule will only serve to further cripple our state's small construction companies, farmers, and even fire fighters, by handcuffing their ability to perform a job in a timely manner. Most construction jobs have a time line of completion tied to a monetary reward or penalty. Farmers have a certain time schedule in order to cultivate, and or harvest crops, and firefighters are definitely in a time sensitive occupation in the face of some pretty intense heat. By requiring them to "mandate" cooling breaks and forcing their employees to take water breaks will cut deeply into the efficiency in which the job is completed! This rule has a steep price tag on it, and one I don't think the sponsors of the rule even considered. Most people naturally know when to take a drink of water, and stop for a brief refresher. In addition to time, the employer will have to purchase equipment to be in compliance with the rule, such as temperature and humidity measuring instruments, cooling stations, creating a position responsible for education, facilitation, and litigation, not to mention the unseen costs that will crop up. Washington State is not considered a particularly hot state. States such as Arizona, New Mexico, Texas, and Oklahoma have much higher temperatures than we do, and yet don't see the need for this kind of burden to be placed upon employers. So then why must Washington? This is a bad rule! I am totally against this kind of Government intrusion! There must be a certain amount of "common sense" latitude or the people will revolt. Big government is becoming a source of widespread discontent in our nation, and this is just another example of it. I am not able to make it to any of the Public Hearings so I appreciate the opportunity to voice my concern over this matter.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that cooling breaks are not required. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity has been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	D. Brent Skill, Skill Remodeling, Inc.	Since I am unable to attend the hearings on the proposed Heat Stress rule, I am forwarding my comments to you by letter. I think that if you check the records you will find that the number of claims for "Heat stress" in the State of Washington are very few. Most workers know instinctively when they are too hot, and will take the appropriate steps to cool off on their own without being told. They know enough to drink water as needed. As a small business specializing in remodeling kitchens, bathrooms and additions to residences, my employees spend little time outside in the heat. When I told them how much water they had to drink according to the new rules, they couldn't believe it. No one we know drinks that much water, even on 100 degree days (which you may have noticed are rare in western Washington). I have been a contractor in Washington since 1977 and have never had a problem with heat related illness myself nor have any employees of mine. The cost of compliance, what with misting stations and other unnecessary requirements, will not be cheap and will put a large burden on small businesses such as mine. We already take steps to make sure our field employees are safe and healthy. If we don't, everybody on our team loses. This rule is not necessary and should not be implemented.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language has been updated to clarify that employers are not required to provide misting stations..
General - Opposed	Unknown	The proposed heat stress rule is the most ridiculous, expensive, unnecessary ruling I can think of. Do you people have nothing better to do to justify your jobs. Small business owners have enough government intrusion to worry about without having to spend time everyday determining what the weather will be. We are not baby sitters. If a grownup cannot figure out if they need to drink fluids on a hot	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when

WAC Section	Commenter	Comment	DOSH Response
		day, they have less going for them than I care to deal with. Government should keep their nose out of this. Am I to ask employees whether or not they have on underwear to determine if they have one or two layers of clothing, pleeeease. I do not mind providing water, but this is insane.	determining the temperature action levels.
General - Opposed	Nancy Thurston The Fiore Group, LLC	I have just returned from the hearing you had on the above mentioned topic in Richland and would like to submit my comments for your consideration. I am against this ruling and hope to see it stopped here before it is added to the giant pile of rules and regulations that are currently on the books. 1. It is unnecessary: There were only 446 heat related claims in the past 10 years in the state. There is no data available to determine how many of those claims were determined to be the result of employer or employee negligence so the benefits are indeterminable. Current laws and especially OSHA's General Duty Clause is adequate in regulating heat related injuries -this one would be redundant. There is 1 state out of 50 who has a rule like this -we would be the second. With states like Arizona and New Mexico not having this rule but who clearly deal with more heat-related situations, it is evident that such a rule is unnecessary. 2. It is expensive and the Cost:Benefit ratio is questionable, at best: With only 446 claims in 10 years and no data to determine responsibility, how was a savings of $50M calculated? I am assuming that you used the Economic Impact number of $922 per business to come up with the $28M Cost figure. Those figures presented were noticeably low and there was no back up data to support them except that a certain committee within your Department prepared them. 3. It adds to the burden of being an employer in the state of Washington: Over regulating employers is oppressive; especially when it appears that the State is trying to regulate common sense. Employees must be held accountable for their own health and well-being. Transferring that responsibility to their employers is bad for business, moral and development of character and results in employees who exhibit poor personal responsibility. 4. The rule is full of ambiguity: So much of the language is subjective and much is left to the discretion of the inspector leaving compliance pretty much out of the control of the employer. For example: a. Table 1: There is no definition of work clothes. b. How the temperatures are taken, when the temperatures are taken, how often the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the

WAC Section	Commenter	Comment	DOSH Response
		temperatures are taken is unclear but the mere fact that it is not required to document these temperatures makes the rule pretty much useless. c. Who determines that the water is 'readily available' and in 'sufficient quantity' at certain times of the day. What are 'effective procedures' for replenishment and who is in charge of making sure employees drink enough? d. When an employee shows signs of heat-related illness, who is to monitor them and determine whether medical attention is needed? Was it in the Economic Impact budget to hire and train a medical technician? 5. It is senseless to set up rules to regulate only one aspect of heat-related injuries. There are so many other instances where these may occur but are exempt from this WAC. Heat-related injuries can occur inside as well as outside a building. Working outside in the heat may be at times, perfectly safe, where just a few feet away, any number of circumstances -concrete walls, asphalt surfaces, etc. -can cause the temperature to rise to unsafe levels. Fortunately for the employee, there already are safety rules to help employers keep these varying worksites safe. Micro-managing employers, holding an unlimited number of rules and regulations over their heads and spending a lot of tax payer money hiring inspectors and auditors to penalize them is counter-productive for the people of this State. Teaching tools, sharing information, safe work site tips, any of these are welcome additions to an employer's best business practices but let them use their own common sense and compassion for others to regulate something as simple, straightforward and scarce as heat-related injuries.	rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language has been updated to clarify how the trigger temperatures apply to required PPE and work clothes. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. The employer is only responsible for providing water to the employee and ensuring an adequate amount is available for employees. The employee is responsible for monitoring how often and how much water they consume. In addition, an entire day's supply of water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers. If an employee shows signs or demonstrates symptoms of heat-related illness, the employer must relieve the employee from duty and provide a method for reducing the employee's body temperature. The employer will determine the most appropriate method for monitoring the employee.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Building Industry Association of Whatcom County	The Building Industry Association of Whatcom County (BIAWC) welcomes the opportunity to comment on the Washington State Department of Labor and Industries (L&I's) proposed Heat Stress Rule (proposed Washington Administrative Code §296-62095-§296-62-09560). We are opposed to this rule for the following reasons: (1) This rule is cumbersome, and will be difficult for employers to comply with, and for the public to understand: We received a flow chart from L&I explaining how to comply with the Heat Stress Rule. The flow chart itself was two pages, and meandered all over the place. There are so many different variables that it will be difficult for an employer to write a safety plan that adequately defines all of these variables, as will be required by this new proposed WAC. (2) The proposed WAC itself conflicts with existing Washington State and federal laws. According to the proposed WAC, all training must be conducted that include [g]eneral awareness of personal factors that may increase susceptibility to heat illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, water consumption, alcohol consumption, caffeine consumption, nicotine use, and use of prescription and nonprescription medications that affect hydration or other psychological responses to the heat[.] Proposed WASH. ADMIN. CODE §296-62-09560 (b). The difficulty with the above provision is that an employer is barred by existing employment and privacy laws from asking the necessary questions conduct the training that would be tailored to an individual employee's age, medical condition, medications, etc. There is no explanation in the proposed Heat Stress Rule as to how an employee or employer is supposed to comply, and there is no recognition anywhere in the proposed WAC of existing state and federal laws. (3) Another section of this proposed rule that is poorly written is the Definitions section, particularly the section of "Outdoor environment." Proposed WASH. ADMIN. CODE §296-62-09520(7). "Outdoor environment" includes "vehicle cabs, shed, and tents or other structures…when the environmental factors are not managed by engineering controls." Proposed WASH. ADMIN. CODE §296-62-09520(7). The difficulty is that there is no definition of "engineering controls" in this section. Our best guess is that would be air conditioning in a tent or the cab of a vehicle, for example. However, there is no explanation given, in regards to due process rights of an employer	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. The required training is intended to inform employees generally how personal factors can affect the risk of heat-related illness. The rule language has been updated to include a definition of the term "engineering controls." Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's calculations for the SBEIS and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. The SBEIS estimates that costs for implementing the proposed Information and

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		how L&I will propose to enforce this rule. There are existing state and federal laws on the books about search and seizure, entry, and stoppage of vehicles, as well as entry and search and seizures into enclosed structures and other buildings. There is no mention in this proposed WAC about how all of those constitutional and statutory protections will be followed in an enforcement action. Is L&I going to obtain appropriate search warrants? Will law enforcement be involved? As we stated above, there is no definition of what "engineering controls" means. There also is no explanation in the WAC, or even definition provided of important terms such as "enforcement action" or "enforcement procedures." (4) L&I's own research has stated a lack of necessity regarding a rule regulating heat stress. There have only been 446 heat stress claims out of 1.44 million L&I claims in ten years, and that has been both indoor and outdoor claims. This is three-thousands of one percent over a ten year period. In addition, the Small Business Impact Statement conducted by L&I indicates the cost of compliance for small business to be $17.30 per employee per day. With the small amount of claims and a sudden impact to small businesses, it does not seem prudent in this uncertain economy to place a new burden on business owners. Due to the small amount of claims, the confusing compliance structure, and the lack of constitutional and procedural safeguards in this proposed Heat Stress Rule, the Building Industry Association of Whatcom County (BIAWC) requests that L&I not pass this rule. L&I needs to focus on making sure employees are protected from real and more likely workplace hazards. If you have any questions, please do not hesitate to contact us.	Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Nancy Neisinger	As a small business owner now facing upwards of an additional $80,000 in ancillary costs to comply with the heat stress rules, I am not happy. In fact, my blood pressure is up and going higher as we receive more and more news about the rules. I have what I consider to be a critical question regarding application of the rules. As a company are we supposed to monitor our employee's behavior every evening? I didn't think so but here is the rub - an employee's health and life style are just as critical as any indices of heat, humidity, etc. Now what? We have about as much control over what an employee does when not at work as we do over Mother Nature who can be erratic at best. Of course you have to add to the overall cost, that of prepping for a heat stress day only to have it rain. Primarily, my concern is with giving employees nights off when they could conceivably have a drink or two and come to work the next day hung over. Not that any of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for

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		our employees ever do this, but what if an employee, in a hung over state, succumbs to "heat stress" when we have taken every mitigating measure possible? I have absolutely no suggestions as to the possible remedy for this dilemma. I certainly hope that someone does before charging into this costly adventure. We are trying to be a "for profit" corporation - not a "non-profit". Oh, wait a minute, if the costs become too high we'll simply have to go out of business and not even worry about the heat stress factor. Our only stress would be from having to lay off our entire staff. I would appreciate hearing back from someone who can answer my question regarding employee life styles, etc. and the impact on heat stress.	small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. The required training is intended to inform employees generally how personal factors can affect the risk of heat-related illness.
General - Opposed	Randy Dasalla Washington Association of Landscape Professionals (WALP)	It is the position of the Washington Association of Landscape Professionals (WALP) that the existing state and federal rules are sufficient to protect workers from heat-related illness. Furthermore, we believe that the Department of Labor & Industries' own claims data backs up this belief and, therefore, the rule is unnecessary and places an undo burden on businesses that may result in the elimination of jobs. If the Department were to move forward with adopting the rule, we request that data be provided supporting that the rule will meet its intended purpose. In accordance with CR 102 Rule-Making Order (RCW 34.05.320) Attachment (2) page 3, "This rule was intended to reduce or eliminate the number of serious incidents and fatalities by increasing worker protection from heat-related illness while L &I continued permanent rulemaking process". In addition, if the rule were to be adopted, there *are* several changes we see as absolutely necessary to provide clarity so that employers can comply with the new rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General	Randy Dasalla	Last year's "emergency" heat stress rule generated 988 citations, totaling $10,970 in	The Department appreciates the time taken to provide this comment and recognizes the

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- Opposed	Washington Association of Landscape Professionals (WALP)	penalties, during a 4-month period. All citations were for "paperwork" Violations. Is this the true intent of the rule? In addition, during the period of July 2005 through June 2006, only .00311 % of all claims statement were related to heat stress. And, with what we believe to be an understated cost to implement and administer the Heat Related Illness Plan, we would urge L&I to consider spending its time and energy on an educational outreach program. We *believe* that a positive approach will be better received by the employers and will supplement current APPs that we are all currently required to have.	concerns and opinions presented. When the Department issues a citation, it is because employees are exposed to a hazard and the citation reflects which part or parts of the rule were not complied with at the time of the inspection. The Department reviews written programs as well as other elements of the safety program during an inspection. The lack of a written program can represent the level of compliance with this rule as well as other requirements. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The

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			requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Deborah M Bachtel Bachtel Construction Companies, Inc.	I attended the public hearing concerning L&I's proposed Heat Stress Rule yesterday in Richland, WA. Due to time constraints, I was not able to give public testimony then. Accordingly, I wish to go on record in writing now. I oppose the proposed heat stress rule. We are a concrete contractor with 5 employees. At any one time during the work day, our employees may be spread out over 2-3 jobsites, sometimes miles apart. Very rarely do all our employees spend all day on the same job site. I am at a loss as to how to implement and oversee the proposed rule. Because we are usually the first contractor on a job site, there most likely will be no buildings or trees to provide shade, so do we provide tents on the first job site and then move them as the guys move from job to job? Do we have to visit each job site each day to monitor the temperature and humidity, check the clothing each employee is wearing and make sure they are drinking the required one quart/hour/man of water? The cost of gas alone makes this prohibitive. In the 16 years we have been in business, we have always taken heat-related illnesses seriously. We know the hazards and the remedies. Our employees are trained to understand the reasons for heat-related illnesses, recognize the symptoms and react as necessary. The rules (laws) already on the books have worked up until now and I see no	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that employers are not required to provide tents or shaded areas. The requirements of the rule apply to employers who have employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF) When the rule applies, the employer is required to: • Address HRI in their Accident Prevention Program; • Provide 1 quart of drinking water per hour to each employee when the temperature action levels are met or exceeded; • Respond to employees who show signs or demonstrate symptoms of HRI; and • Provide annual training to employees and supervisors that address the training

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		reason to add to the burden (i.e. higher operating costs) that small businesses in Washington state must already endure.	elements in the rule. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity has been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Chris Anderson Don Jordan Energy Systems	Thank you for the opportunity to attend the public hearing on the proposed Heat Stress Rule held in Yakima, Washington on April 30th, 2008. I did not testify in an effort to avoid redundancy but would like my position known and recorded. I'm strongly opposed to additional regulation and would urge the committee to reconsider. It appears as though a tragic incident or incidents may have occurred to initiate this rule. It is not clear to me that any additional regulation would have changed the situation. I'm certain that employers, as well as employees would take any necessary measures to avoid such an incident but implementation of this rule is certainly no guarantee. The Washington State Administrative Code provides regulation for a safe work environment	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the

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		and specifically states "An adequate supply of potable water shall be provided in all places of employment." WAC 296-155-140 1a. Please seek to enforce the rules we already have in place and take this opportunity to educate employers and employees about the potential hazards of heat stress. This would be a much more effective use of the states resources to reduce a risk that has not even been clearly identified as a problem area in the first place. The cost analysis provided is also vague at best. The figure of $923.00 as a cost to employers is suspect. The more elusive figure however is that of the benefit. What data was used to arrive at such a figure? I have not seen any evidence to support the validity of these figures. In addition, I have concern regarding the implementation and enforcement of the rule. Should the rule be adopted on June 4, 2008 and enforced starting July 5, 2008, that leaves twenty two working days to educate the entire workforce of Washington State that spends more than fifteen minutes per hour outside. A daunting task to say the least. Also, picture the staff required to accurately monitor the temperature of every workplace across the state. Where would it be measured, and by what method? I would like to relate an incident that occurred last summer involving a friend of mine, James Keller, who is employed by Apple King LLC and is a farmer independently as well. While working on a ranch in Mattawa, Jim received a call from his field superintendent in the upper Yakima Valley that an L&I inspector was on site. As per company policy the employee was instructed to cooperate with the inspector who had requested a copy of the heat stress program, but he was not to enter the site until the company safety officer arrived. A short time later the employee phoned again stating that the inspector was harassing him and claimed that the temperature was 102 degrees. Jim noted that in Mattawa the temperature was in the high 80's concluding that the temperature in the upper valley could not possibly be that hot. The employee also related that the thermometers used in the field did not agree. The inspector then went on to declare that his digital thermometer may not have been accurate, and he was not trained to use it but that didn't matter anyway because the temperature readings used in his report would be from the Weather Underground web-site anyway. Eventually Jim was cited with a general violation for a minor emission in his written Heat Stress Program that was immediately remedied. Quoting Jim "this appeared to be nothing more than a witch hunt". It should be noted that it is in the employer's best interest to protect his employees, they are not infinitely replaceable. This employer did everything possible to insure the safety of his employees and quality of his product. I ask, what did this entire episode do to help	rule reduce costs by comparison to the costs evaluated at the time of proposal. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. The Department developed a cost estimate for the rules they presented in the proposed rule based upon information from both survey responses and agency compliance cost estimates. The survey results showed that only a small number of employers will experience any cost as a result of the proposed rule. In addition, the survey responses showed that a limited number of employers will incur a cost for all elements of the proposed rule. Further, the cost estimates are based upon a trigger of 80, which has been changed to 89. Agency compliance cost estimates resulted in the $923.77 figure. The rule language has been updated significantly and as a result, a final Cost-Benefit Analysis is available.

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		protect the employees. Where is the cost to the employer calculated in the $923.00 figure? What about the physiological impact to the employees witnessing this charade? Lastly, the timing of this rule change could not possibly be worse. With the current state of the economy and rising energy costs many businesses are struggling just to stay alive. The additional burden of such a rule may be more than some can weather. In industries such as construction and farming, summer is the time of year when profits or losses are determined. The overhead required by this rule is most certainly not in anyone's business plan. It is already difficult to do business in Washington State as compared to many other states around the nation. It appears to me that this is just another incentive for those who are here to leave and a deterrent for those who are considering locating in Washington. Again, thank you for this opportunity to offer my concerns regarding this rule. I urge careful examination of the impact of such a rule change. A well intended effort to insure employee safety could result in undue financial hardship to the employer and little or no effect on employee safety.	
General - Opposed	Traci Wood, Wood & Wood Development	As a co-owner of a development and construction company I am extremely opposed to the heat-stress rule you are planning on implementing. The process to identify the need is way too complicated, and the requirements are unreasonable. Employees would be put at more of a risk by climbing up and down ladders or on and off of equipment every 15 minutes to get their drink of water than if they were able to get a drink as they felt was necessary. I can't imagine the time and expense it would take to analyze all the conditions this rule would require. Please consider being a little more realistic with the requirements and consider the financial impact to companies before proceeding.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees.
General - Opposed	Del Jacobson, CGR, CAPS Advent Construction Services, Inc	I apologize for the informality, but it's the nature of email. I'm writing to express my opposition to the proposed new heat stress rule. For us, it's just another example of regulation that should be common sense. We hire responsible adults and they know when they are hot and when to they need to drink water. Further L&I requires that we have a qualified first-aider on our job sites. Because we are a small employer with small crews, we choose to have all our employees be qualified first aid card holders. We pay for the training and pay the employee's wages to attend. The first aid course familiarizes our employees with the problems of heat stress and heat related illness as part of the curriculum.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard.

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		Heat stress as part of L&I claims represents less than 3 one thousandths of a percent of claims. The rule as proposed is onerous, ambiguous and adds one more expense to our operation. I think the rule is a case of a solution looking for a problem that doesn't exist.	The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. First aid training courses provide basic information on recognizing and treating heat-related illness. This information addresses components of the required training in WAC 296-62-09560; however, it does not address how to prevent heat-related illness.
General - Opposed	Daniel and Jessica Layton Inland Arbor	I am writing to inform you of our opposition to the proposed Heat-Related Illness Rule as it is written. We believe that our workers and humans in general are a conscientious folk with intrinsic self-preservation instincts. We disagree with the legislation of such a common sense behavior. To assess the world around us, take off a layer or drink more water is to be assumed. We have read your reasoning behind the proposed legislation. We agree that the deaths stated are surprising and regrettable, but don't believe this worthy of the blanket burden on small business owners. We are for the inclusion of (and already implement) heat awareness in our safety practices, but the documentation of daily (hourly? to the minute?) weather analysis would be a ridiculous burden for this small company.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor or document the weather. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the weather, the employer may use any method they choose.
General - Opposed	Shawn Linhoff, Perfection Glass, Inc.	This letter is to notify the Department of Labor and Industries of our strong opposition to the proposed Heat Stress Rules that are currently undergoing public hearings. As an employer that would be impacted by this rule, we know that we are already doing	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		everything possible to keep their workers safe from heat-stress-related illness. The new rules proposed by L&I are extremely prohibitive, costly and disproportionate to the actual problem. Here are just a few of the reasons why Perfection Glass, Inc is opposed to this proposal: • The rule contains a number of "implicit requirements", which more or less require an employer to also be a meteorologist and keep track of radiant heat, humidity, air movement, conductive heat and more. • The rule is unnecessary – L&I's records show just 446 claims out of 1.44 million in ten years – and that includes indoor and outdoor claims. That's three-thousandths of one percent over a ten year period. • The Small Business Economic Impact Statement conducted by L&I indicates the cost of compliance for small businesses to be $17.30 per employee per day. $432.50 total per day for Perfection Glass, Inc. • The heat stress rule is disproportionate rulemaking – focusing on what is essentially a small problem at the expense of losing sight of bigger, more dangerous workplace safety issues. • Just like the ergonomics rules from a few years ago, this is just one more costly, burdensome regulation imposed by overzealous regulators who have no idea what it takes to run a small business. We urge you to re-consider the adoption of this rule and to allow the rules that are currently in place to be enforced and be allowed to work. This rule does not actually do anything further to protect workers - it simply places more requirements on the employers and give L&I the opportunity to write more citations.	The rule language has been updated to clarify what the employer is required to do to comply with the rule. The Department believes there are no implicit or unwritten requirements in the rule. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. WAC 296-62-095 does not require the employer to consider the humidity or other environmental factors of the worksite when determining the application of the requirements. Humidity or environmental factors has been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to

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			the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Don Robertson Gary Merlino Construction	I would like to start out by saying I do support the idea of making the workplace, and in particular the construction industry, a safer place to work. But I do not support the idea of meaningless regulations that burden the employer, the state, and the employee for no sensible reason. Part of that reasoning rests upon the fact that what I have seen and read, heat-stress injuries and illnesses count for less than one percent of workplace injuries. At face value it seems that both the department, laborer, employers, have more important issues to spend valuable time and resources on and things that maybe could make a bigger impact to the general population of our workforce in general. I have heard some testimony talking about the extreme temperatures that we are -- employees in our workforce is exposed to here in Washington state. Interestingly enough, I was able to pull some information up on NOAA -- the National Oceanography and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness

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		Atmospheric Administration I believe is what it stands for. It is basically the accepted temperature climates, weather forecasting from the government. And interestingly enough, they do not include Alaska and Hawaii, but in the 40 -- I would imagine Alaska is probably colder and Hawaii is probably hotter -- but they do not include that in this information. Washington is the 36th warmest state in the lower 48. In the month of July, which is typically a warmer month, we are 48th out of 48 for the average temperatures in the lower 48. And for August, which is generally considered the warmest month of the year, we are 41st out of 48 states. And that is barely warmer than such tropical paradises such as Idaho, Montana, Wyoming, which leads me to believe that extreme temperatures, at least on the western slope of the Cascades, are probably not extreme as compared to other parts of this country. As far as the training goes -- and we have heard some testimony concerning the training -- I do believe that employers who are doing first aid training as they should be doing, as there is rules in place that require it to be done, they should be giving their employees some of that training to recognize and treat signs and symptoms of heat-stress related injuries. So there should be things in place that -- employers should already have things in place that are recognizing some of these issues. Also, there are rules in place that require employers to have written accident prevention programs that addresses all hazards, obviously heat-stress injury illnesses could be considered part of that. And employees who aren't currently doing these things probably aren't going to start doing them because a regulation has been put in place. That's based on some personal observations and personal history, that the ones that aren't currently doing it probably aren't going to start doing it because somebody decided that they should write some rules and regulations concerning that particular issue. Again, I oppose the idea of having this particular regulation in place. I am not against regulations or making things safer or better but I am against meaningless, noneffective regulations.	has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.

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			First aid training courses provide basic information on recognizing and treating heat-related illness. This information addresses components of the required training in WAC 296-62-09560; however, it does not address how to prevent heat-related illness.
General - Opposed	Mandi Kime Associated General Contractors of Washington	I am the safety director for AGC of Washington and I am here to provide commentary that you guys have already heard throughout the state to just kind of echo what was already said. The main point that we want to say here is that while we appreciate what the department has done and we appreciate you guys having these forums for us to discuss our input on the rulemaking process, and we do appreciate the amendments that were made recently to the rule to make it more achievable for contractors to comply, we do still fully oppose this rule. Reasons being, we don't feel the rule is necessary. As noted by the department's own staff at public hearings previously held throughout the state, there are rules already in place within OSHA and several in DOSH Washington Administrative Codes or WACs that require employers to deal with heat stress and heal-related illness. Employer are also required to have a written accident prevention program to address all hazards. Heat-related illnesses is included within that. We believe the department should focus its resources on better enforcement and consultation of existing rules. It was also noted at the previous hearings throughout the state that the most recent deaths due to heat-related illness involved employers that were not complying with current rules. That being said, better enforcement of current rules rather than redundant layers of rules would be a better way to prevent these tragedies. As Robertson said from Merlino Construction earlier, just because we have another rule on the books does not mean employers are going to be any safer. And while the Association fully supports the idea of a safer workplace for employees, having more rules doesn't necessitate that. So we are concerned that the department is spending scarce resources on a rule that has little effect. It has already been a three-year process to promulgate these rules, put them into place. We feel that that is in contrast to the fall protection rulemaking process and at detriment to that process. AGC has been working with the department on improvements to that rule and we feel	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department is continuing the development of the Fall Protection rules. For information on this project, please contact Jamie Scibelli at (360) 902-4568 or by email at scij235@lni.wa.gov.

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		strongly that we kill and injure a lot more people in our industry with falls and some other very serious related hazards. And while heat stress is an important hazard that we do need to focus our attention on, it does not require an additional rule. The heat-stress process, we feel, is diverting department resources that can be used to bring the fall protection rule to a reasonable and positive conclusion, and we feel that is a much better investment of taxpayers' dollars in this state. So you know, just to further echo what Mr. Robinson said, in that we rank 41st in the nation on heat, tells us that it is not as severe of a problem as we are lending a lot of effort to. So in summary AGC opposes the rule. We do greatly appreciate you guys giving us the opportunity to make this commentary, though.	
General - Opposed	Ken Day Ness Cranes	I am with Ness Cranes and I would second what Ms. Kime and Mr. Robertson have said. We oppose this regulation. Over the years we have developed our own very effective safety plan. We are a safe company. And we go out to work every day, and sometimes night, weekends, in all kinds of different conditions. When we get called out we don't -- we can't say, Well, it is too rainy or it is too hot. We go when the contractor calls us or sometimes the emergency services calls us, we go out and we work. Part of what we do is work with our people before they head out. They have got to have the right equipment to set up the machine. In the case of nighttime operation it might be lighting. If it is cold, they have got to take cold weather gear. And if it is hot out, we have got to warn them to take extra water and be cognizant of weather conditions and pay attention to possibility of heat injury and look out for other people on the job. So this is something, as Ms. Kime pointed out, that leading contractors are already doing. And we work with our clients to deal with this and we think this is an unnecessary regulation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095.
General - Opposed	Ron Torres Pacific Contracting	I have been building for 30-plus years. Our company is a member of Home Builders Association and all the other appropriate things that we need to be. I want to say that I'm in agreement with everything that has been said so far. Plus, I have several pages of things I would like to say, but at the risk of just being repetitious I do want to address just a couple of things. In the information that we have that has been faxed to us and we've been able to pull off the internet, some of my questions are as I have just	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives.

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		read through this the last several days that, number one, nobody has said anything about what the scope of this problem is. One of the former speaker says this smacks of a solution in need of a problem. I have not been able to see anything in this information about what is the problem. Where is the validation for this? I agree with everybody that it's in all of our best interests to have a safe workplace. I mean, nobody gets ahead if your employees get sick or injured. I mean, it's safety first. We preach that and everybody preaches that. We are required to have, you know, safety meetings, on-site and in the office, and we comply with all of that. It is to nobody's benefit to create or not correct problems that are there. But when these kinds of things come down without an established need, without any kind of validation, it just smacks of heavy-handed government, people trying to validate their jobs while we're trying to support them because it is our tax dollars that pay government's bill. So this issue of validation in my mind is huge. What is the problem? What is the need? And I want to say that one of my questions that again has not been answered in any of this information is does this make a safer workplace. I don't see where it does. Joe read -- there is already multiple layers of regulation in place about keeping our employees and ourselves -- some of us are out in the field as well -- keeping everybody safe and productive and healthy. That's the whole point of this. If you don't have that, you don't have a good bottom line. And at the risk of sounding confrontational, this smacks to me like nothing but a revenue generator, another reason to go out and write tickets and produce money. And again, philosophically that just goes back to people trying to justify their jobs. Are we going to have a new force of temperature police being hired by L&I? Who is going to be checking all of this? In my mind, I can easily visualize people running around in white lab coats and hard hats with thermometers and humidity gauges in their hands. How is this going to work? And I see these figures here of a 28 million dollar cost with a 50 million dollar benefit, and I'm going there is no justification for those numbers in anything that I have gotten and in anything I have seen. There are stacks and stacks of papers on small business economic indicator impacts and all of this stuff. It doesn't make a bit of sense. The bottom line is that none of these things are making any sense to me. And I may not be a whole lot smarter than the average guy out there, but I don't think I'm a	Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.

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		whole lot dumber either, and if I can't make sense out of it, there's going to be a lot of people who are going to have problems with it. The last thing that I want to say is that in addition to the other comments that have been made, I think the timing on this issue stinks. We're looking at $4-a-gallon for gas, getting real close to it, and $4.50 for diesel. In the paper this morning -- I looked at the Herald Republic before we got here, and quoting several friends of mine, people that I know in the industry, they have bid jobs and now that they've gotten the jobs, just a couple of months later the price of gas is going to just chew right into any profit they have. So the timing of this with what is going on in the economy is horrible, and I think that is a factor that needs to be considered in any of this. Looking up there -- and again I'm highly suspect of those numbers that were flashed up here, that it's going cost an average of $1,000 or $923 for someone who has not done anything -- those numbers never hold water. And I think the government's figures themselves will back up that all these projected estimates are never right. They are never right. Nothing comes in like they have been projected because those things are not based on real life and there is always a lot of unintended consequences. Those are my questions, and I just want to say that for our part we think this is some bad legislation, and we stand against it on the basis that there are already things in place. What we do not need are more layers of government regulation to have to comply with to do the job that we are doing already.	WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity has been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Mike Threlfall City of Spokane	I'm with the City of Spokane. I'm the Safety Coordinator. I agree on the one hand with Mr. Borg that I think the firefighters definitely need something in their vertical standard that addresses heat. On the other hand, as far as this new standard for general industry, we are already required to assess the workplace and to provide for our workers. We are required already to train our employees in first aid, which would include heat-related illnesses, and to identify them and to know the first aid treatment. That's already required. We are already required to provide our employees with potable water, which we do provide. Eastern Washington gets hot. We are fortunate in the fact that it doesn't get humid. And I	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected

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		really understand where this came about. In 2005 we had a really hot summer. People died across the United States due to heat, and OSHA came out initially with the first emergency standard, and we followed suit. So this is a little different than the ergonomics rule where you guys came up with something all on your own, so it's totally different there. But again, we are already addressing these issues. I have some concerns with clarity. I have refuse workers that drive refuse vehicles. They're out eight hours a day. When you say engineering controls, I would assume that means if they have air conditioning then we don't have to provide them with water, but if they don't have air conditioning, we would have to provide them with water, so I would assume that means I've got to send out every refuse driver with two gallons of water if I'm going to maintain the amount of water that you guys suggest. There has been some interesting studies. One says if you give people too much water, force them to drink too much water, their electrolytes go down so then it's like do we provide water or do we provide these sports drinks. There's one study that I read recently that said you should let people rely upon their thirst, which means that that tells them when they are thirsty and that tells them if they're drinking too much or too little. It's pretty simplistic. And again, we do provide the water. But my question is what am I going to do with my refuse workers where they're indoor or outdoor -- in my opinion it's not really clear enough. So I guess what I would like -- I think we already have most of this stuff. I do agree that firefighters need something separate. They are dealing with fires and extreme temperatures. I have employees that I am concerned about. The last thing I want is for any off our employees to become ill or die as a result of a heat-related illness. I do the training every year for the city. We've been doing this for years because this is a hazard. So again, I don't know if we need a separate rule to address this. And this kind of brings to mind one question. I believe more people die from bee stings than from heat, so are we going to come up with a standard for bee stings too? I don't want to start anything. But again, they do kill more people, so it would seem obvious, going along with the train of thought that we're going through here, that we need another rule.	to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical Hazards Committee to develop a temperature action levels that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or

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		I think the rules are clear. I think we have plenty of rules. I think that these issues are addressed in other areas. I think any responsible employer looks at his employees as a valuable resource. The last thing we want to do is have someone become sick. It takes another employee to take them to the clinic. We're self-insured, and it costs us, so we want to provide them with water -- I just don't think that this -- and the chart that you came out with, I mean, 89 degrees, well that's the summer. Normally our employees have a chance to acclimate, but there are times when May comes along and it's this temperature and then all of a sudden, boom, we have 100 degrees. We are concerned about that, and like I said, we do address it in our training. We remind everyone to drink. We talk to the supervisors and employees, again based upon the first training and the fact that we already have an obligation elsewhere, and we've been doing this. So it's kind of like now you're putting -- I like that other chart you had in the other standard. It was a lot more colorful than the one we have here. It did address issues like humidity. And again, like I said, our humidity is very low. I would like simplicity and I would like -- I've got to enforce this, and personally I don't have a problem enforcing safety rules, but I'd just like them to be a littler clearer and more valuable maybe, where if it's already something that I'm already taking care of and addressing in other areas in the WACs, then why be redundant.	trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html. The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee's clothing or PPE was determined as a result of Dr. Bernard's research. This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point. The WBGT formula is as follows: With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$ Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$ T_w= Natural wet-bulb temperature (humidity indicator) T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation) T_d=Dry-bulb temperature (normal air temperature)
General - Opposed	William H. Davis	I have two or three quick things. I have been involved in the construction industry as an insurance and bonding agent for 30-some years now, and I sit on the AGC safety committee. In listening to the testimony today, it definitely sounds like two things need to happen. One is that you need to address probably three different types of employers. The firefighter gentleman was speaking rather derogatorily about his employer, so maybe addressing public employers, and then addressing the agriculture issue, and then addressing construction as three separate areas, rather than trying to bundle them all together. Then the other thing is rather than -- the way this reads, it reads like you put two or three people in a room with no windows and one door and came up with something. I'm obviously being facetious, but what you need to do is sit down with those groups and say, okay, we have decided that there is a problem, now how do we get from point A to point B, and use their knowledge and their expertise because they are on the front lines of working on a day-to-day basis and you can cull all that information and then put it to work. As I said, I'm in the insurance business, and quite frankly, reading an insurance policy would be a lot easier than reading this wording. As Wayne pointed out, it's very ambiguous and, therefore, hard to follow. If you are going to create something that you hope will work, then make it understandable and workable within the industry segments that I think you	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The intent of the rule is to provide the same level of protection to employees across all industries. Chapter 49.17 RCW requires the Department to assure safe and healthful working conditions for every man and woman working in the state of Washington. Labor representatives did request the Department consider adopting a rule following the death of a farm worker in 2005, and in 2007, Columbia Legal Services filed a petition for rulemaking on behalf of a worker who had suffered heat-related illness. However, given that heat related illness is a serious hazard, the Department independently determined rulemaking was necessary. Throughout the rulemaking process, the Department worked with business organizations, employers, employee representatives, and other interested parties on developing the rule language, meeting with these individuals on numerous occasions and holding many statewide stakeholder meetings.

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		need to address.	
General - Opposed	Bill Quehrn Building Industry Association of Whatcom County	I'm the Executive Officer of the Building Industry Association of Whatcom County. I would like to, first of all, in seconding the comments of the gentlemen before me, Mr. Perkes and Mr. Ratto, do a little exercise in what I call connecting the dots. It's five after 2:00, so you probably have to wait an hour before you can turn on almost any radio station anywhere in the country right now, and one of the top stories is going to be housing starts and the problems with the housing industry. It's a huge macro problem. Well, how did it happen? It didn't happen for one big reason. It happened for a lot of little reasons. Let's see if we can narrow that down to something smaller, $1,000.What we're told through the economics department or division of the National Association of Homebuilders is $1,000 typically in the increase of a mortgage is the difference between what 500 families can do. In other words, for every increase of $1,000 in the price of a home, 500 families are taken out of the market. There's a lot of things that go into that $1,000, the cost of the material, the cost of permitting, the cost of a variety of materials. Regulation certainly is one. And I'm going to throw in an additional $17.30. It's a small portion of $1,000. That's per day per employee. What are we talking about? Now, I understand that you folks are not concerned about the national housing problem, and maybe you're not even concerned about a mortgage. That's not your job. Your job is protecting workers. Those workers are also people who want to buy homes. At some point as all these dots converge and come together in a glob in the center, they become one of those folks who instead of sitting across from me in a public hearing, they're sitting across from a loan officer baring their soul of what their net worth is and finding out that the income that they make, roughly one-third of which would qualify for mortgageable housing, is about $1,000 short. As Mr. Perkes was saying awhile ago, where does it end? When is it going to be that finally we decide that we've got enough rules and we've got enough regulations? Where is the cost of housing going to start factoring into all of the inputs that go into producing a home? Housing is the most regulated industry in the country. I don't think there's as many regulations on a brain surgeon as there are on a builder. All of those things start costing money. So our $17.30 or all of those other costs, including buying the equipment, storing the equipment, moving it back and forth, time lost for the employees, suddenly becomes sitting across the table from your loan officer. Out of our 600-plus members of our association, representing about 10,000 or 15,000 family wage jobs in this county, I've never met one of our members yet who really celebrates the day when one of his employees gets hurt on the job. Most of our businesses are small, very small, a single builder with 5, 6 or 8 homes a year, up to some larger ones, and I've never met one yet who celebrated the day when an employee was injured, and they go out of their way to try to prevent injuries of any kind. And I don't think there's any one of them that hasn't got enough brains under his hard hat to know that sometimes you're going to have to have	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. Due to the large number of employers in the state, the Department prioritizes compliance activity based on several factors including imminent danger hazards, fatality investigations, complaints, and referrals. Compliance inspectors can also stop and inspect worksites when they observe employees in imminent danger. The Department encourages employers, employees, and the public to report unsafe worksites by calling 1-800-4BE-SAFE or your local L&I field office.

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		some water on the site when things get warm or possibly just shut down for that afternoon and let the guys off. That's possible too. But the question that Mr. Ratto brought up earlier was enforcement. Who's going to be the water cops here? Our guys get angry about the fact that they are low-hanging fruit. There's a name on their truck. There's a permit in an office. Somebody has an employee up there who's not tied off or there's a fall hazard or something, bingo, you've got him. You know who that is and you can get them. Meanwhile, there are lots of folks -- and unfortunately many of them are being taken advantage of as immigrants, whether legal or otherwise, or people without a lot upstairs to know how the regulations all work, that will work for people doing work under the table with no safety training, no hazard training at all, very little safety equipment on the site, and our guys who are building with all of those things in place can watch the L&I driver pull up in front of them at their job site, and they on the way to the job site passed a couple of those other sites, and you're saying why in the heck are you stopping here? Why aren't you going after the people that are causing some serious harm to working folks? It gets back again to all those dots. I understand that each legislative act, each rulemaking act, must be considered on its own merits. Of course. That's the only way to make sense out of making a rule. But at some point connect the dots, put them together. What if this dot crossed this dot? And what does the combination of those two dots cost the person sitting across the desk from their loan officer? That's what I think these people are trying to say. We're not out to hurt our people. We love our employees. Many of them are like family. Most of my members can tell you the names of their employees' kids, when they graduated from high school, if they've been there that long. They know the name of their dog. They know their wives' names. They remember birthdays for them. These are not people who are working at cross-purposes. And the one great thing that most employers can't afford is losing a key employee. That's why they do safety. Not because you guys tell them to, but because they can't afford to lose the people who are working there. That is why this makes people really, really angry. Go after the people who are hurting folks. Leave us the hell alone if we are paying our taxes, doing our job. If we make a mistake now and then, let us know. We'd be happy to fix that. But otherwise, for crying out loud, get off our backs.	
General - Opposed	Jim Ross JNR Enterprises	I have been in the construction business for over 50 years in the paving and underground utility industry. I have worked in California, Arizona, Nevada, Oregon and Washington, and in all those years I know of one time that one of my employees or anybody I've worked with has ever had a heat-related problem, and we work in some very hot climates. About this 86 degree temperature margin, the material we work with is normally in the 200 degree range. So you're saying that as soon as we dump a load of asphalt on a road, my crew is going to have to take off and rest, so what do I do? Do I have to have two crews, one resting every 15 minutes and one paving? How are you going to introduce this to the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirements of the rule apply to employers who have employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF)

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		paving industry, or are we going to shut down paving and building roads? That material we work with is above the threshold of the temperature you're talking about. That's a real concern for the construction industry. There has to be some type of method where we can still work with that material because you're not going to be able to pave with cold asphalt.	When the rule applies, the employer is required to: • Address HRI in their Accident Prevention Program; • Provide 1 quart of drinking water per hour to each employee when the temperature action levels are met or exceeded; • Respond to employees who show signs or demonstrate symptoms of HRI; and • Provide annual training to employees and supervisors that address the training elements in the rule. The rule language does not require a work-rest regimen. However, employers can implement a work-rest cycle if they choose.
General - Opposed	Renee Brooks Home Builders Association of the Tri-Cities and Walla Walla	We have over 800 members. The majority of them are small businesses. We know our members are already doing everything possible to protect their workers. It hurts their business. It hurts their morale when an employee gets sick, whether it's from a heat-related illness or something else, so they are doing everything they can already to keep their employees safe. We find that this rule is unnecessary, that it's going to hurt small businesses. The cost could be up to $18 per employee per day. With a company with 20 employees, that can add up to $80,000 a year. That's going to put companies out of business, have employees get unemployed, and it's actually going to hurt those employees in the long run. It also requires the contractors to be more or less meteorologists, to keep track of more than just the temperature. The rule reads humidity, radiant heat, air movement, et cetera. How are they supposed to be trained to do that? I don't think the rule is very clear on what they're supposed to do and how they're supposed to do that. That leaves a lot of room for chances to get fined, I think. And another comment is if they're required to check the paper for the temperature, and the paper says it's supposed to be 82 degrees and they're wearing regular work clothing, what happens when it turns out to be 90 degrees and it hits the heat trigger, but when the employer looked at the paper that morning it wasn't supposed to trigger anything? I think because there were only 446 claims in ten years, that's less than a half of a percent, and it shows that this rule is unnecessary. We certainly sympathize with the workers who have been harmed by heat-related illness, particularly those who suffered the fatalities in their families, but we think that the current and existing rules should be enforced and regulated and we shouldn't have any new rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard.

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			The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The training required by WAC 296-62-095 will provide employees with information about environmental factors so that they will be able to accommodate changes in the weather that occur during the day. In addition, employers can choose to implement the requirements of WAC 296-62-095 when they anticipate they may meet the trigger.
General - Opposed	Carl Zimmer, Zimmer Construction	Our country was founded on small businesses. This is another cost to small businesses. I've been in business for 42 years, and I wonder why because of the bureaucracy. We're required to have first aid. First aid has a section on heat stress. Should we do more with first aid and not have this rule? Western Washington is not like Eastern Washington. It's like being at a desert trying to implement Alaska rules for cold. So I think it's ridiculous. And the undue costs to the small business is going to be -- I was reading up to maybe $8,000 a year for people with 20 employees. That's a lot of money. I want to see the guy that's going to drink a quart of water every hour while he's on the job. It's ridiculous. And the last thing is that the next thing you're going to be telling us is how many calories a person has to eat at lunch while he's at the workplace. Don't adopt this.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. First aid training is designed to teach employees how to treat injuries and illnesses after they occur. The intent of WAC 296-62-095 is to prevent as well as respond to heat-related illness. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the

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			rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Jay Meyers Garco Construction	I'm here representing Garco Construction. And along with representing Garco Construction, I'm essentially representing the construction industry as it exists in Spokane and tied back into Associated General Contractors. A lot of what Wayne had to say -- we are pretty much talking off the same sheet, so I'm not going to go through a lot of the details as far as some of the verbiage that we disagree with or don't understand. But I was the safety director over at AGC for 13 years, and I've been with Garco for five years, so it's about 18 years, and in that 18 years I have read quite a few standards as far as standards revisions and new standards, things that have come along and been put into place. But this heat stress standard is by far the worst example of bureaucratic nonsense I've run into in a long time. The reason I say that it to reiterate as a whole what Wayne has talked about for some of these terms. You pick the standard up and you read it and you look at it, and after you have finished reading it, you look at the detail and you say, well, what is it that I really read, I don't know, I don't understand what I'm being asked to do. In essence it's very subjective in nature, and I'm not indicating that I like to see standards that say, you know, this has to be two feet here or three feet here or four feet there, I'm not saying that, but what I am looking for is a document that will give credence and some credibility to the intelligence level of the people that we expect to use this thing, and this doesn't do that. It's just too vague. Again, if I read a document, when I'm finished reading it, I'd like to really understand it and know what it says, and that's not the case with this. And I think the Representative that was up here first said this is a solution looking for a problem, and I don't disagree with that, but I also look at it from the standpoint of -- I think what we've done here with the Department is we've created a problem and now we've created a solution. There was never really a problem in the first place, and I think the statistics will back this up. I don't have any hard and cold statistics as to what kind of heat-related instances we've had in construction, but we've had procedures in place that make sense and procedures in place that kind of indicate what we're supposed to do. I would venture a guess -- I know we do it and probably most of the members of the AGC -- you look at what time of year it is. It's wintertime so we're going to start doing some training on the effects of cold weather. We're going to talk about hypothermia and we've going to talk about frostbite, et cetera. When the weather gets warm, we're going to start talking to our	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. The intent of the rule is to provide the same level of protection to employees across all industries. Chapter 49.17 RCW requires the Department to assure safe and healthful working conditions for every man and woman working in the state of Washington. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical Hazards Committee to develop a temperature action levels that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html.

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		crews about what it is they're going to experience. The weather is getting warmer and this is what you need to look for and this is what you need to do. And historically it hasn't been a problem. We're dealing with reasonably intelligent people, so let's treat them that way. I think what we have here is we have looked at what we perceive needs to be done, but we have just overdone it in the realm of bureaucracy. And when I say that, what makes me say the word bureaucracy is because of some of the terms we're using, and that's why I wholeheartedly object to it. And the fact that it has taken this long to do that is just a perfect example. If you perceive this to be a problem, you have a very simple problem, so if you want to write a solution to it, let's just write a simple solution to it. We don't have to go into this -- I can't even come up with a term for it, so you fill in the blank. A good example is that chart down there. I was doing a little research on Google about dew points and all this other stuff and the effects of humidity and so forth. Those sorts of things are no secret to anybody. Now, how anybody has extrapolated a 50 degree dew point up into a chart that talks about what you have to wear based on certain temperatures is a bit of a mystery to me. If there is an explanation for that, I wish you'd send it to me because I'd like to see that. So I think I've taken up enough of your time here with an opinion. What we need to do with this is take two steps back and look at it from the standpoint of, number one, do we have a problem. And if you insist on saying we do have a problem, then let's come up with a more reasonable solution. And my other feeling on that too is initially I believe this has been evolved and has come from some of the problems we've run into in agriculture. If the problems are, in fact, in agriculture, then let's deal with it as a problem in agriculture. And if the two concepts, that being construction and agriculture, are not consistent, fine, then write a standard for agriculture and write a standard for construction and/or any other entity that may be here because I think I saw the fire department here. I don't think a lot of the things in this standard are going to be compatible with the fire department or possibly some of the things that the people in the city -- just take the entire work spectrum as a whole, and I think we're trying to pound a round peg into a square hole here as far as who's going to be covered and how.	The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee's clothing or PPE was determined as a result of Dr. Bernard's research. This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point. The WBGT formula is as follows: With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$ Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$ T_w= Natural wet-bulb temperature (humidity indicator) T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation) T_d=Dry-bulb temperature (normal air temperature)

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		So I think you need to take a step back, re-look at what you've done, and frankly my recommendation would be to take what you've done and put it away and just use what we've had before.	
General - Opposed	Jim Breidenbach Craftsman Construction	I own Craftsman Construction in Spokane. It's a small remodeling firm. We employ anywhere from between three to five individuals throughout the season. The challenge we've got as small employers is that we're being absolutely overwhelmed with complying with, as far as I view it, useless paperwork that does not accomplish anything. I've currently got a secretary who has been working for the last week just to comply with DOT requirements so they can come out and charge us to inspect our vehicles. What does that accomplish? Nothing. It doesn't make any one of our employees more safe. It does not achieve the given end, other than to find a means of giving a state employee a job. The goal of the Department of Labor and Industries is to achieve a safe work environment for our employees, and that is a laudable goal. That's great. However, if all you're going to do is compound the ability of me to generate a profit to keep these people employed, then what good has it done? They'll be nice and safe sitting at home collecting unemployment insurance. In the interest of being even more redundant, all the others that have spoken before me -- apparently the Department of Labor and Industries is not learning the lesson that was achieved through the ergonomics fiasco. This is a significant problem in the industry. Yes, in deference to the few individuals that have suffered to the point of their own life with heat stress in very limited incidences, the majority -- and as Senator John Ahern said, less than .003 percent of all claims. That is just a statistically insignificant event. Now, I'm not minimizing that and saying that a person's life is statistically insignificant. What I'm saying is that to create a rule with this far reaching of an impact for the minorities when it could be simply stated as we recognize, yes, it gets hot in the summer, folks, drink water. During the winter months, yes, it gets cold, so bundle up. These are simple solutions and not in need of some far-reaching legislation or rulemaking such as this that then requires me to hire another secretary to create the paperwork to comply with this rule too. As a small employer, we just don't have the time. I'm sorry. We're trying to get out there to make a profit. If I can keep my three people employed, great. If I have to increase the cost of my services to pay for another administrative person just to comply with these rules, we can't stay alive. We cannot compete in the market place. In our company we choose to comply with all the rules and regulations that the state	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these.

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		organizations require, and we do our very best to achieve that. Now, is it more expensive to do that? Yes, because I've got to hire staff to do this. I don't have enough hours in the day to wear all the hats, and so it requires that you -- even if I have one employee, I still have to comply with all these rules and regulations. So if I've got to hire additional staff to comply with these rules or further burden existing staff with more rules to comply with, what is that achieving? It's making my overhead costs more expensive, and I'm going to have to increase my cost of doing business, which I'm going to have to charge my clients, and it makes me that more expensive in the market place -- and face it, in Spokane we're home of the coupon clipper. It's just the nature of the market. So I have to keep my costs as competitive as I possibly can. Now, am I more expensive in complying with all these rules and regulations? You bet because I've got to pay somebody to do that. I'm tired of working 14-hour days where one-third of it is just complying with paperwork requirements. I just don't have the time to do it. If we had a simple and reasonable rule that we could follow and just come during our safety meetings and say, hey, guys, it's getting hot today, does everybody have their water. We provide them with thermos bottles of water, those five gallon containers with cups on the side of it. Do I have to show up every other hour and say, hey, guys, have you drunk your quart of water for the hour? Are you wearing appropriate clothing? I'm not running a babysitting service. These are adults that I've hired. I mean, the Department of Labor and Industries mandates that I can't hired anybody under 19. Okay, I'm assuming they've gone through school and understand that when they're thirsty they should drink water. This is not a rule that is necessary for adults. At what point do we make employees responsible for themselves? And once again, I think it's necessary to be redundant. This is a rule in search of a problem that does not exist.	
General	Doug Lydig Lydig Construction	As other people have testified, mainly the gentleman who spoke from the City of Spokane, we already have those rules. WAC 296-155 under the general duty clause and under employer's responsibility already dictates what our responsibilities are to our workers as far as providing water. The general duty clause says that we need to provide a safe place to work. That's already there.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water.

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		So again, I think you are taking rules that we already have and shoving them aside and then saying, okay, let's reinvent this cart, and then let's figure out where to put the horse. Whether somebody comes to work dehydrated is something that I am now, according to this rule, going to have to try to identify from the minute that they start work during the day. I think that's an extremely difficult, if not impossible, task to put on the employer based on the life choices of the individual worker.	Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees by their supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Greg Hayter All Valley Sheet Metal	Everybody is different, one quart of water an hour is too much for one and not enough for another. Some people can work in the sun all day while others can't work 15 minutes. Providing plenty of drinking water, great. We always have and everyone should. Training employees to look for and be able to recognize the signs of heat stress in others (and themselves), great. We've implemented it in our safety and accident prevention plans and have tip cards in our vehicles. Other than PPE type clothing I can't force my employees to where one type of clothing or another; if one person wants to wear coveralls and the next person doesn't should the person in coveralls get more water and more breaks? How are employers going to monitor air temp, humidity, radiant heat, etc, on every job site?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF).

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		I can understand the need for shaded areas, but not misting stations or air conditioned spaces. In closing I think the training and providing plenty of water should be required, but beyond that I believe it is an unnecessary burden on our small business.	When employers expect temperatures to reach the temperature triggers at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. WAC 296-62-095 does not require the employer to consider the humidity or other environmental factors of the worksite when determining the application of the requirements. Humidity and other environmental factors have been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. The rule language has been updated to clarify that employers are not required to provide misting stations or air-conditioned spaces.
General - Opposed	Len Cornwell Sammamish Plateau Water and Sewer District	I decided to come here because at the time it first came out there wasn't anything closer. I see now that there is a Seattle offering of this. First of all, I hope you all wore your Kevlar garments to this hearing. It's always a challenging position to be in. I would comment that there are some positive things I have seen in this. I first encountered this last year, and I thought it was positive that you had taken out the terms where you said "prevent the occurrence of" because that really puts an onerous burden, an absolute burden, on something. You replaced it with the words "reduce to the extent feasible." That sounds good, but that almost places as bad a burden on an employer because now I have to guess how some L&I inspector is going to interpret that any particular day. So now it ends up that you absolutely can't do anything wrong to now you don't know if you've done anything right. My District hired me about a year-and-a-half ago to be, among other things, their safety officer. I also do emergency planning. We have 50 employees. We have a commitment to this. So I saw some positive stuff here. Of course, we don't come to these hearings if we're excited about the program, so I want to share with you some thoughts that have grown out of some of the discussion today, and I've tried to organize them somewhat. First I would like to talk about your analyses. There are several things that have struck me on this, and I was particularly chagrined by the slide you had up there that gave the estimated cost for updating the APP and the cost for training employees. I have not taken the time to dig into your bigger cost analysis thing, but when I see the numbers I saw I don't see a need to dig any further. They are so far from reality that I can't imagine a person would put them on a screen. You had 35.95 to update an APP to include this. I can't imagine, unless you're hiring someone for two-and-a-half bucks an hour or	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. When conducting the survey for the economic analyses, survey respondents were instructed to not assess any costs that they incurred as a result of the emergency rule. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.

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		less, how you could come away with that. Last year it took a good week maybe of developing an APP. We had to go through our safety committee. I had to do the draft. I had to run it by the safety committee. They would dig into it, and then it goes to the management team and they make changes, and eventually it becomes a policy of the District. I think you just have no clue how it works in the real outside world. My people tend to think I want to put them in bubble wrap and protect them, so I tend to be very protective and real safety-oriented, but this is just -- the analysis is just missing. It's just way off. The cost to train -- the PowerPoint you folks provided last year does need to be adapted to your district -- there's a good hour or two at minimum. I took that and put it into our format with our background and stuff like that. $200 for 50 people -- there was at least 45 minutes to go through that PowerPoint. There's no way you're going to do $200 worth of training on 50 people unless you're paying them two bucks an hour. The numbers that you come up with in your analysis are so far -- not just close, but so far away from what we're experiencing that I just have to question the rest of the analysis. It makes me very dubious of that. Another item on the cost part, I think it is extremely disingenuous of Labor and Industries to assert that there is no additional cost as a result of this rule-making proposal. There is a cost, and that was the cost incurred in 2007. To leave that out is just dishonest at the very least. It's just disingenuous. I can't believe you would do a competent analysis and not take into account the cost -- people have already done it because you made them do it. Several people have mentioned that the quart per hour doesn't seem realistic. I did a lot of research last year, and the U.S. Army and the Marines -- that seems to be a consistent number, but I can tell you that nobody in my District would drink a quart an hour. I couldn't force it on them. We're a water district and we ended up buying bottled water. One of the points in the analysis was looking at the cost for coolers and stuff like that. Our people said no way because they didn't know who had been in the cooler last -- for hygiene they wanted bottled water. It was kind of embarrassing to buy bottled water when you're a water district. We thought of maybe transferring them to clear bottles so they wouldn't know. People were concerned that our customers would see that. So I think it's not really practical that people are going to drink that, but if you have to provide it -- we had stacks and trays of bottled water sitting by the door that nobody took. That was a poor investment on our part. You already noted in your presentation that the training -- you felt that the APP and the training that was done last year would be sufficient for this year. That's not true. You have totally changed how you determine when you should have an alert. There are going to be changes. You are going to have to re-train people. You can't just walk away and say, well, it's the same thing. So that's another part of the analysis that I think is just totally missing the actual point there. It was brought up -- we asked about west versus east, and many people commented that this seems to be overkill, not really a needed thing. Last year we very carefully monitored the weather. We	

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		checked the weather -- actually you can get an hourly forecast for the day and decide whether it's going to be an afternoon thing or whatever. We had at best maybe four alerts where even potentially it might get up high. We found that most of the temperatures happened late in the day after about three o'clock, so they're going to be quitting at 3:30 anyway, yet we had to go through the entire process to make sure they were as safe as they already were. I think there's a logic disconnect in your analysis also where you're differentiating between outdoor and indoor, indoor being that it has four walls and a roof. I worked for a city up in the north county for a while, and I did inspections, and on a hot day being inside a house that's being built is as hot as being in the shade outside. I see no practical difference. I don't want to encourage you to do it, however. I just want you to just not do this at all, but there needs to be a logical flow here that works. Otherwise, you make it -- people just question why bother. A couple of last things. I find the timing of this to be terribly bad. It was terribly bad last year. We had barely six weeks, if we had that, to get that rule and come up with the change in the APP, doing the training, scheduling it. It was pushing it to get it done with 50 people. And now again, we're going to have a rule that potentially -- if we can't convince you not to adopt this rule -- we're going to have a rule where we're going to have another four to six weeks to actually respond to and develop the changes in the training and whatever. I can't imagine why you couldn't have done this six months ago. Give people the chance to at least respond and create the program, so that's disappointing to see this happening. The final comment -- and this will reflect things other people have said -- it just strikes me that maybe we're using a shotgun when a rifle is the appropriate weapon. You know, the shotgun is hitting the whole state, and maybe it should be regional, or maybe it's just specific industries, or maybe as others have said do the consulting. Find the people that have really messed up and fix that problem. Don't fix everybody's problem that don't have any and just put this burden -- the cost is incredible. This is not a trivial thing for us to conform with.	
General - Opposed	Mike O'Neil Lakeside Industries Washington Asphalt Paving Association.	And in full disclosure, I was a stakeholder. Before you start throwing things, I'd like to point out that the private sector, the stakeholders, were generally opposed to this rule. First of all, on the cost benefit we have heard a lot of people saying the cost isn't realistic that you've listed today, and I asked the question off the record of how many employees did that pertain to, and looking at the numbers a little bit it's -- it doesn't seem unrealistic to me that this could be a cost per employee. If you look at the amount -- for example, it said $35 for the updating. Our employee manual costs about $15 to $16 a year to print for one manual, so if we have to update the manual because of this rule, that's what it's going to cost. The other thing it mentions -- there was a lot of talk about how it affects small business. There's this thought process, I guess, that people don't think that big	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA,

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		businesses matter, that it doesn't matter how much it costs big business. It does matter because big businesses employ small businesses. We as a general contractor, or even as a subcontractor, employ small subcontractors. We have to pass the cost on to our customers, whether we are a big business or a small business, so it costs the consumer money. So it doesn't matter if it's a big business or a small business. It's going to cost the consumer money. So big business or small business should not even be considered. The training requirements aren't reasonable for our type of work. We're a road construction company. We dispatch people. We call the hall and say we need five flaggers. We get them in and we use them. We can't train five flaggers and have them on a job tomorrow because they're on a job today somewhere else. We don't have the availability of that in a short-window season of paving or road construction that we have. It's not reasonable. And the requirement to train annually makes that even more burdensome. With regards to the data, the compliance data, that has been brought up throughout the stakeholders' process and now is faulty. And I know this from firsthand. If anybody knows this rule, I should know this rule. We have a plan, and the plan is in place, and all of our employees were trained, and we were cited. The reason we were cited is that the inspector didn't know -- he came out to the job site and he asked where our plan was and he asked if we had trained. We didn't have the plan or the training documents on the job site, which is reasonable -- that word gets thrown around in a lot of these things. What's reasonable? We had it at the office. We told him that. He said I'll go talk to my supervisor. He went and talked to his supervisor, and he wrote a citation. The citation was vacated, but where's the cost that it took me to get it vacated in this process? It cost me money to get it vacated. I shouldn't have had to do that. Why did that happen? Were we trying to inflate the numbers to show the companies out of compliance? I don't know. The rule -- I guess along those lines is the rule. We looked at the other data, the claims data. Somebody said it's three one-hundredths of a percentage. Whenever that was brought up in the stakeholder process or in any other meeting I was at, the statement was made that we don't believe the data. We think it's more than that. We think it's under-reported. Well, you can look at that one of two ways. If it's under-reported, is everything under-reported? If it is, then the percentage stays the same. As an employer I think it's probably over-reported. We have more claims denied -- we have claims denied. We don't go out and solicit claims, but we do have claims denied. So, therefore, some of these claims are not legitimate. But let's say they are. Let's say they are under -- let's double it. Where are we at then? It's still a very, very small percentage. We're spending a lot of time and resources on something that could be better spent other places. With regards to do we need this rule, I did some research and looked at some other states, Arizona, Texas, New Mexico, California, the hot states. One of them had a rule. California had a rule. Do you know what the other states had? An education program. They spent the money we're	NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. A general contractor would not be responsible to provide training for their sub-contractors. WAC 296-62-095 does not require the employer to maintain any heat-related illness documentation at the work site.

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		spending today on education. That will prevent these illnesses, not the rules. If you look at the violations or the claims or the fatalities -- and we have said here today and I have heard it over and over that the companies that had the fatalities weren't complying. Are the companies that don't comply going to start complying because we have a new rule? No. It's just another rule for them to ignore. We need to hold the companies accountable, the employers accountable that aren't complying with the rules that we currently have before we start adding more rules. It's just more burdensome. You're punishing the good and ignoring the evil again. The last thing I was going to say is in my research Washington state ranks as far as high average temperature in all the states 41st.	
General - Opposed	Dale Merten Toledo Telephone	Our company has a very extensive training program. Each month all of our employees are required to participate in some sort of a training. And I must say that a lot of that comes from L&I, and we've had some great topics. But I would have to agree with the majority of the people in this room. I think this issue is a solution looking for a problem, not necessarily a problem looking for a solution. I would like to talk about the practicalities of implementing such a proposal. We're a small company. We have 20 employees. Half of those employees work in the field most of the time, but they don't have any direct supervision, any direct management. I may have two people working together on a backhoe on any given day, but one is paid exactly the same as the other. They don't have a supervisory role. So who determines when it's time to come in? Effectively how would we manage that? To complicate it even more, those two people may not work together every day. They mix and match between the ten people we have. And then as another gentleman pointed out, we have people who work by themselves. We've got a great crew and they get a lot of training, but they have kind of a git-er-done attitude, which is fine, but you know what that can lead to. Well, it's only 87 degrees and I'm going to be done here in 15 minutes so I'm just going to knock it out. Who makes that call? That comes back to the employer. Even though we have a tremendous training program, it's still the employer's responsibility to make sure that an employee stops. How do we implement that? So again, I would like to say I believe the training program we already have in place is much more sufficient, and I think the rule that we have in place is probably more than many. And again, I think we have a solution looking for a problem.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirements in WAC 296-62-09560, Information and Training, will provide employees with the knowledge necessary to avoid heat-related illness. In addition, the training will also allow employees to recognize signs and symptoms of heat-related illness.
General - Opposed	Larry Seaquist State Representative – 26th District Washington House of Representatives	Please consider this input during the public comment period on the proposed heat stress WAC 296-62-095 Heat-related illness in the outdoor environment. As a long-time US Navy ship captain, I have many years experience preventing heat stress in crews working in hot machinery spaces and in the high temperature climate of the Middle East. The Navy began aggressive programs to prevent heat stress several decades ago. Drawing on that experience and after listening to constituents' concerns, I	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The intent of the rule is to provide the same level of protection to employees across all industries. Chapter 49.17 RCW requires the Department to assure safe and healthful working conditions for every man and woman working in the state of Washington.

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		recommend that the proposed WAC be withdrawn and recast. I offer two suggestions: Differentiate between routine, “fact of working life” risks and the transient conditions experienced by some employees, such as those in the building trades and other outside jobs. The protection of workers in an industrial or agricultural setting where high temperature exposures are inherent in the job – certain factories or field workers in the summer in Eastern Washington fields – is quite different from the preventive measures required, for example, by building trades workers who move frequently to new sites in the typically cool climates of Western Washington. The proposed rule may be more applicable to workers in fixed and predictable settings. Workers in the latter category – especially those in Western Washington where heat stress conditions for outside workers are seasonally limited – are probably best protected by and advisory system. Shift to an employer advisory strategy – at lest for workers in non-routine exposure settings. As I read the proposed WAC and as I understand the concerns of constituents who will implement it, the current approach imposes on the employer the burden of making a heat stress determination based on a complex set of factors. For a small building trades business, this may require a different assessment for each of many different jobs at different sites. Among other consequences this imposes a highly variable, difficult to cost-estimate burden on businesses that live by making successful bids on small construction projects. It was my experience that I could achieve complete worker safety with a general risk advisory approach: reminding my supervisors of the risks when we encountered them and teaching crewmembers to take the necessary set of precautions. Like L&I, I know that the risks of heat stress are real and serious. But I do believe that, especially for workers in lower risk, non-routine exposure settings, an advisory, risk-awareness approach would prove to be far more effective. I’m concerned that an overly complicated, burdensome rule could actually increase worker risk by driving some employers into t he underground, unregulated economy. Thank you, I’d be pleased to discuss these views with staff should anyone wish.	
General - Opposed	Alan Perkes Alan Perkes Construction	I'm the owner of Alan Perkes Construction, a general contractor. I have 25-plus employees, and going through the summer months it will jump up to about 32. As I express myself with some frustration and emotion, when I use the words you and your, I am speaking of the Department as a whole. However, if it does apply, so be it. You work for us. You have a job because we do our job. Without us, many of you would be	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are

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		unemployed. You give on one hand this last year or so by giving us a few points per rating in some areas, and then on the other you take away at a higher cost. I have been in the construction industry in northwestern Washington for 24 years as a steel building supplier and erector. I have been the owner of my own company for the last ten years. For the first seven years I kept an experience rating of a .06 as a steel building erector, one of the highest and safest ratings of anybody in the state. I provide employment. I provide opportunity. I provide a safe work environment. I hold regular safety meetings. I have water on the site. I have had water on my job sites for 24 years. I didn't need you to remind me of it. It is something that we have done pretty much industry-wide, and we have done it willingly, not by a policing action. I provide first aid training and CPR training, in which I not only pay for the cost of it, but I also pay the employees during the time that it takes to do it. We break it into sessions. This last week we had, I think, two sessions of eight, sixteen employees, to the net cost of their wages plus $600 for just the training for those two groups. I have implemented safety standards using what's called a Skyweb, a safety net that goes down on the roof of structures for fall protection. That is self-implemented, not imposed by the State or anybody else, since January of 2004. I didn't sign on or license the company to become a baby-sitter for the State of Washington and its wish lists. I am, however, being pro-active, and I am letting you know that I came prepared for your next step. I brought for that purpose some visual aids. (Mr. Perkes places two rolls of toilet paper on table in front of him.) I came prepared for the next step, and I want to ask is it going to be my responsibility next to check each employee as they exit the crapper and make sure they wipe properly to the liking of those sitting on their a-s-s in Olympia? Enough is enough. Why can't you give us a rest? Why can't you realize -- and I'm not being unsympathetic to the loss of life -- but why can't you realize that two people -- and you have brought it to my attention that it was four in the last ten years that have passed away due to this. What were their other health factors that applied? You have people filing claims in your own departments for what? The lunch room door swinging and the smoking access areas? Is your experience rating still at 1.75? For what? To show up to work and for riding in an elevator to an air conditioned office? This last year basically the cost for you to do business was about 1.7, almost 1.8, billion dollars. The revenue increases for that same year was 2.1, almost 2.2, billion dollars. You had a 40 percent increase in revenue last year. That's a 400 million dollar increase. In 24 years of construction experience I have never been able to do a job where I reaped a 40 percent increase. Most of our margins as a general contractor are less than ten percent. When you look at the claims versus 2006 and 2007, they are almost dead even, which means that we must be doing something right. I'm not saying that the record is perfect, and I'm not saying that there aren't injuries that take place in the workplace, but what has the workplace done to and for you? You have a job. You have a retirement plan. You have	exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the

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		medical insurance, not even available to us. You have the best in the state. You have all your holidays paid -- either paid or off. You get cost of living increases on a regular basis. We are not impacting your lifestyles at all. Why is it so difficult for you to see the continued hardship you are placing on the businesses of this state? You do discriminate. And you hold construction industries across the board to a greater degree of accountability and cost per hour higher than all the others combined. The CPI and the economic development in the state of Washington and throughout the nation is based upon the impacts of the construction industry. But you want new roads. You want new offices. Personally we want new toys, homes and et cetera. And most of you complain about the cost of living, the cost of fuel, the cost of consumer goods, et cetera. Please tell me that you in Olympia understand the simple thing that if you add costs to us it gets carried straight across the board to the consumer. It's not rocket science. You don't need a major degree to figure it out. It's simple economics. It will and does require more direct costs, more direct supervision, more paperwork, and by the way you are really good at that. For example, the Department of Ecology has us monitoring for a rain event, which means we have to fill out a report each time the rain falls and the cost and effect of that rainfall, and implement best management practices if they are required for the effects of the rain on that site. Now when and if the sun does shine, you want to add your two bits' worth. We are here losing money to defend our right to be in business. Each individual in this room has taken time out of their day to come here to be heard. You're being paid to be here. You either drove here in a state car or you are being reimbursed for your mileage. People who have diabetes and other ailments have to monitor themselves. The age of accountability, I think, in court legally is eight. I'm not sure -- it's eight or ten, but it's younger than most of us in this room. Since you want to make a change, a difference, why don't you listen to us, the people, for a change? We know that would cause you some discomfort, listening to the people, that is. It's our turn. It's time now to listen. What we need you to basically do is take a chill pill and count your billions of dollars in surplus. What is it now? Nine to ten billion that you have in surplus? Leave us alone say five years -- or ten years would even be better. You are supposed to be working for the people. You are creating a non-productive working environment. Under your plan do our people work -- excuse me. I want to make sure you get this one clear. Under your plan when do we work between drinking and peeing? Are you going to allow me to put Sanicans on the roofs of our steel structures. I will have a greater safety hazard having people go up and down constantly because of over-hydration than I will to have a Sanican on the roof securely attached to the roof. You talk about the cost to the company. You don't know the cost to the company. You have never been in business more than likely for yourself. You don't know of the unforeseen conditions that we get hit with. You don't know of the additional costs that we are hit with on a day-to-day basis. You are only concerned about the little cubby hole in	rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language has been updated to clarify what the employer is required to do to comply with the rule. The Department believes there are no implicit or unwritten requirements in the rule. The rule language has been updated to clarify that employers are not required to provide cooling stations. WAC 296-62-095 does not require the employer to consider the humidity or other environmental risk factors of the worksite when determining the application of the requirements. These factors have been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510.

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		which you work and in which you function and in which your analyses are done. Yes, I believe that you do analyses and cost effects based on the area that you are trying to affect, but you do not take into account the overall effects of the fact of the unforeseen conditions that happen to us on a daily basis in business. The rules that you choose to implement contain a number of implicit requirements, things which aren't explicitly required that employers will be forced to do anyway to prove compliance. And I brought up the question earlier that wasn't on public record that you are trying to provide information, and I asked the question of whether or not the word trying would hold up in a court of law when you choose to prove that I'm in non-compliance, including keeping temperature logs to demonstrate climate awareness. You didn't include those costs of administration. Maintaining cooling stations in the event of a potential heat-related illness. You did not increase the cost. I, for example, run multiple job sites, so it would be that cost for anywhere from 2 to 7 sites going on at the same time. Evaluating environmental risk factors which could affect exposure to HRI such as radiant heat, humidity, air movement, conductive heat, heavy labor or work tasks of long durations. Even L&I's own objective claims data demonstrates a lack of necessity for a ruling relative to regulating heat stress. 446 claims out of 1.44 million in ten years? And that includes indoor and outdoor claims? That's three-thousandths of one percent over a ten-year period. This thing has been blown up as if it's a major crisis. The Small Business Economic Impact Statement conducted by Labor and Industries indicates that the cost of compliance for a small business is to be $17.30 per employee per day. For my company of 25, that is $2,162.50 a week. Now, I know that this does not apply to the whole complete year, but let's say that the climate changes and we get hotter for a longer period of time. That could go up -- as my company grows just to comply with this one law or policy it could impact my company $100,000. The heat stress rule is disproportionate rulemaking focused on what essentially is a small problem, at the expense of losing sight of bigger, more dangerous workplace safety issues. All employees strive to provide safe workplaces, and many already protect workers from heat illness. But are there any incentives in it for us to do so? Absolutely not. Why? Because you have taken on the role of a policing agency, not an agency to provide guidance and direction. You and many of the other agencies in Olympia have become no more than police action providers. Why? So that you can add more money to your coffers and so that it can sit there at our expense. But this rule goes overboard. It won't do more to protect workers and just gives Labor and Industries more reasons to write citations. California is the only other state with a similar rule, a state where it's not uncommon for temperatures to reach as high as 110 degrees. If regulators in states like Arizona, Oklahoma, Texas, et cetera, don't see it as a necessary burden to place upon employers, why does Washington who	

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		sees the sun -- and may I quote, in your words, a whole two days in the higher area -- why does Washington state feel this is such an important ruling? This is just one more costly burdensome regulation imposed by over-zealous regulators who have no idea what it takes to run a business. The rule as proposed will have a major negative impact on small businesses, and according to the Small Business Economic Impact Statement it states that. I guess in closing I would like to summarize. When is it going to end? You have basically 9 to 10 billion dollars. Basically there is no proportionate share -- there's no gain that this is going to have. You have other areas that require greater attention than this, and you do absolutely nothing. I don't know why it's necessary every other year that you feel you have to add something new. And basically I would have hopes that you would take very seriously the concerns that the public has in regards to additional costs at a time when the economic impact on people's homes and families are greater. The cost for our employees just to get to and from work has already eaten up a good dollar an hour just for them to get to and from work, but yet you want to impose more costs. These costs that you're imposing is for more than water. It's administrative costs. It takes more skill, more time, more money. It's a direct overhead cost to these businesses. It's not a profit provider. It's an overhead cost.	
General - Opposed	Keith Pilgrim Terra Blanca	We're a small business. We're a winery and vineyard operation. I have several questions that I would like to get some clarification on. The Small Business Economic Impact Statement states that the cost of compliance to small business would be approximately $17.30 per employee per day. Calculating for us-- depending on how many days are over your heat numbers, that turns into a cost for Terra Blanca of about $17,483 to as much as $112,450, depending on how that's evaluated. Can I get some clarification on how the calculations, studies and assumptions were put together for those numbers and how the Department intends to offset the cost for small business? The second question I have is the cost estimate that you have prepared states that it's a 28 million dollar cost to implement this statewide and the benefits are valued at 50 million dollars. Could you show calculations, assumptions, studies, reports that were used to develop those numbers and provide that information? The third part goes down to -- it's been referenced several times here, the 446 claims over ten years out of 1.44 million over that ten year period, which represents three-thousandths of one percent in ten years. If this rule is adopted, how many of those claims could be eliminated? You stated that hadn't been looked at, but I guess I'd like to see -- if we are going to implement a rule that costs 28 million dollars and can potentially cost Terra Blanca as much as $112,450, I would like to know how many of the 446 claims we could eliminate and how that would affect things. The second part of that questions is of those 446 claims, if the laws that were currently on the books were actually enforced and upheld by the Department, how many of those 446 claims could be eliminated by current laws? In other words, do we need another set of laws or do we just	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. Information on the preliminary Cost-Benefit Analysis is available on the Department's website at http://www.lni.wa.gov/Safety/Topics/AtoZ/HeatStress/files/HRICostBenefitAnalysis011408.pdf. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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		need to enforce what's already on the books? And the final part I would have to say is that we request the law not be implemented, that the current laws that are on the books be adequately enforced and that those adequately handle the heat-related illness issues.	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees are supervisors.

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			The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Lisa Avery Kamiak Vineyards Gordon Brothers Cellars Board member of Franklin County Farm Bureau	I really, really, really, really would like to encourage you to evaluate the comments that have been made. The intelligent thoughts that people have put together to submit to you, I just would like to echo a lot of those. One of my big concerns, which was really stated nicely just previous to me, was this was an attempt to regulate common sense, and common sense and morality in employers or responsibility by employers to take care of their employees is not regulatable. If we as employers don't take care of our employees, whether they are on a farm or in construction or any other industry, they won't be there to work for us and it's going to cost us money. We want to and work at taking care of our employees in all environments, the heat being one of those. I have some specific concerns where things were suggested such as misting, that if a person was in the heat and went into some place that was cool and got misted and went back out into the heat I think there would be a possibility there for sunburn, a possibility for some kind of undue stress on the body. And if you follow the proposed requirements, an employee could take literally that they need to drink a quart of water every hour and leave their work and go to get the water and come back. Even if it's every 15 minutes, how much time and how much energy and what kind of undue stress or -- let's say somebody's on a ladder picking fruit. Every 15 minutes he's got to come down off the ladder and get some water and drink it, or he's going to have to hold it with him while he's picking the fruit, which is a totally unsafe situation. If that person needs a drink of water and he's been trained by his employer that the water is available there for him and he comes when he needs it at times when he feels it's necessary, it's a little bit different than -- I know it's not mandated that he drink a quart, but if you're requiring an employer to train his employee and they're telling him that he needs approximately a quart an hour, in order for the employee to follow that rule and in order for the employer to train his employee properly based on the rule, that's about what it's going to amount to. How many trips is he going to make up and down the ladder that he wouldn't have had to make? How many more chances is he going to have	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees.

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		to fall off the ladder? That was just an example. I'm not trying to be silly. And I would like to echo also the part about the costs. One of the things that caught me when we were looking at the slides earlier was an approximate cost of $190 and some cents to purchase a shelter, set it up, tear it down and store it repeatedly, especially if you're in construction or farming. There's no way you're going to do that for $190 a year. You probably can't even buy the shelter for that. I appreciate the opportunity of being able to speak. Again, a lot of the comments that I have heard today already have been very intelligent, and I encourage you to listen to those.	
General - Opposed	Tim Dickey	I'm a very small company. We vacillate between 8 and 11 employees, and we do mostly interior remodels. A couple times a year we do decks and additions, but mostly it's inside. I looked at the policy, and I think it's kind of a knee jerk reaction to a very small problem. I certainly empathize with those that died, but that's not something that I did, and my employees have full health coverage. In fact, my insurer says I'm one of the few that does that. There was some data that came out about a month ago when this first came up, and the cost analysis that you provided that we would use for small and larger companies -- the lows and highs on my analysis was $2,000 to $4,000 a year, my cost, and even if it was only $l,000 like you said today, if I did two decks, that's $500 more that I'd have to add to the cost of each deck, and I'd lose work. And who do I lose that work to? I lose it to other companies who are going underground and not getting permits and are not licensed, bonded or insured. Most of my carpenters also work alone. Sometimes they have a helper. Some portions of this policy would be very difficult to implement. I'm in favor of training and self-monitoring.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Josie Johnson-Stocks	Having the opportunity to review the Proposed Heat Related Illnesses Rules, I must voice concerns of a far reaching negative impact this may cause on our already fragile economy and strained business environment. Your notice indicated you had worked with an expert that considered all the environmental factors that could contribute to a heat related illness risk, however, were other factors taken into consideration that were not environmental factors rather underlying physical factors that are also contributory and predisposes employees to heat related conditions that really are not work related but the employer will be burden with the cost to investigate and possibly defend as not being work related. A number of other factors to consider before passing this ruling are: dehydration of a worker as a result of alcohol use obesity (over half of the American population has this condition)	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department recognizes that the employee's personal factors can contribute to risk of heat-related illness. As a result, personal factors are included as a required training topic as a general element only. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. Information on survey respondents is available in Table A-4 of the Preliminary Cost-Benefit Analysis. The Preliminary Cost-Benefit Analysis is available at the Department's website at http://www.lni.wa.gov/Safety/Topics/AtoZ/HeatStress/files/HRICostBenefitAnalysis011408.pdf.

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		medications that makes workers sensitive to heat Illicit drug use The other question this proposal raised was what was the ratio of employers that responded compared to the number surveys that went out? Were any of the employers seasonal, farmers, road construction workers or park and recreation businesses in which this ruling would have the biggest impact? I believe further consideration is needed before this kind of ruling is passed!	
General - Opposed	*Unknown*	I just received an email today from a business organization I belong to in my home state of Washington. Now I have lived here all my 40 plus years with the exception of 2 and a half years serving elsewhere for my country (another 7 plus yrs here serving as well). Growing up here in a small town on the coast I had a lot of pride for what my country and state were doing for the people. Back then it was about of the people, by the people, and for the people. Now it is about scams, power, greed, selfishness, and more. I am disappointed, disgusted, and really getting tired of the organization which you run as well as the non-governor's office trying to destroy what some of us have worked a lifetime to build. I have been a small business owner here in Washington even before I left active-duty military. I have enjoyed it even in the hard times when cash flow just wasn't there. Now we have outrageous taxes and so many rules that really stifle and create more bureaucratic red tape for us to contend with. The rules you people dream up in your sleep create outrageous cost increase and have been putting small businesses out for quite some time and now you are trying again in a huge way with this foolish heat stress rule. How about this, instead of taxing us more, making us hire people whom we would have to pay more than we can make, you all cut your department by 80% and take a 50% pay cut yourselves. Then maybe you would be able to feel the pain in which you are inflicting on the rest of us. Now understand I have read what you are asking for now, so have many others whom I have and will gladly forward this info to shortly. If I as a small business owner was to follow this stupid rule, it would cost me over $60k per year. That is not a cost the consumer is willing to pay, believe me I know. There is a lot of common sense that goes with the industry as well as a lot of training for new and experienced personnel. Do we really need more power-hungry greedy government employees telling us we need to observe what kind of material our employees' shirts and pants are made of? As well as take constant temperature of the dirt we work in? Sounds kind of foolish huh? If you make this rule I will be forced out of business, I promise you myself, wife and kids will be on your doorstep wanting answers. And when you have to tell my kids the American dream is dictated by greedy power-hungry people hired by the people of the State of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness.

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		Washington, and the tears and anger start in, you will understand then many of today's youth whom are taught not to be lazy and worthless will one day soon be the adults we all answer to. I want them to not have opportunity to follow their dreams, not be unable to because of the state agency which thinks they run the world they live in. It's about time your organization gave credit to the intelligence of the business community. We want everyone to have a good job, good pay, and safe working conditions. We are already responsible for their actions enough. So my answer is no. You as an employee of mine, and the other tax-paying citizens cannot impose and/or require us to do foolish costly and financially irresponsible things which will increase costs to consumers and waste hours of work time, and create more laziness in our society. No forget it, if you persist then we the people whom pay your paycheck will be forced to petition the rest of the public for abolishment of your division of government as well as termination of your employment. How about instead we find a simple solution like common sense, and keep small business here. Create rules which are fair and inviting. I am sure that the thousands of small business owners would be happy for fair solutions to miniscule problems. For now I am done, you will hear from me as well as about 500000 others soon. Thank you for sparing us more of the slavery the corporate greedy have got us into.	
General - Opposed	Stephen L. Harrington, M.B.A. Harrington Construction and Development Inc	I have thought a lot about this proposed rule before writing to you in opposition. It is unnecessary and begs to be dropped. I watched to see if there was anything I was missing at our job sites in relation to clothing, temperature, work site conditions and the like after I read all of the proposed rule last year. I then read the rule and shared the proposed rule with each employee at a tail gate safety meeting. The reaction was a universal snicker and rolling of their eyes. The rule is a reach given the size of the "problem". It would be a difficult and costly rule for an employer to implement and enforce. The corollary concern is parents who try to get their children to wear a coat in the cold weather. You've seen the kids, standing at the bus stop with a tee shirt on in 40 degree weather, because coats are not "cool". They do not want to be told what to wear. To require an employer to be a clothing cop is not wise. Thank you for considering my comments.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels.
General	Kevin Thomas	Has anybody who actually came up with this idea looked at the costs involved. At	The Department appreciates the time taken to provide this comment and recognizes the

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– Opposed	Northwest Plumbing Services, Inc.	Northwest Plumbing we try to stay on top of all necessary L&I requirements. However this one is just too much. 1st off the storage of 1 quart per hour for employees will be either a 2 gallon jug or several 1 quart bottles, which will probably be located in the workers van/truck, which will require them to walk to the truck / van then the time to drink, urinate etc. Employees are already given 2 - 15 minute breaks per day free. How are we going to pass on the costs to ensure that each employee is getting his daily dose of water, wearing the proper clothing for each daily condition, Monitoring will require temperature probes, wind velocity readings, analysis.... who is going to pay for all of this? The small company? The Client? Will we even be able to work on a hot day, because of the specifications that I am sure will be following this ruling. What Next - Supportive Neck braces for Hardhat wearers that hold up the Wind Velocity Meters, Temperature Probes, Humidity probes....cause God only knows, that each and every jobsite has different conditions within the job site. My answer to this absurd rule is go back to the drawing board and come up with something that really addresses the problem if there is a problem. I am sure that the Agriculture laborers, construction workers, office workers etc. all have different conditions that cannot be covered by one blanket ruling.	concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The employer is not required to monitor the clothing the employees wear. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. The employer is not required to monitor the temperature or weather conditions on the worksite. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.
General Opposed	Kathleen Garner	We are strongly opposed to the new heat stress rules as these proposals involve extensive, complex and expensive measures be adopted to solve a problem that is virtually non existent. In our state only .00311% of claims relate to heat stress. Our company has been in business for 25 years and has never had a heat stress related claim, yet will be required to perform needless and expensive calculations on every job, even to the point of monitoring the clothes our employees wear to work. Further, this burden will do nothing to assist in protecting the welfare of workers in other companies as the problem is nearly non-existent in our state. .00311% is a very small percentage. Employees should have safe working conditions and remain safe on the job. Workers should not be injured or made ill. Common sense safety rules should be followed. But these proposed new rules are not common sense. To train workers about heat stress so that they will recognize if they have symptoms and may be at risk is reasonable. But to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can

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		require extensive calculations and monitoring be done to substitute for a workers ability to determine if he is hot or thirsty is not reasonable. The proposed rules are akin to requiring a company to do extensive calculations to determine whether a man's wife will try to poison him and then requiring that a chemical engineer be retained on staff to test each employees lunch before he eats it to make absolutely sure his wife hasn't tried to poison him even though there is only a remote likelihood that this will happen. It just isn't reasonable. Please make the rules an employer must follow reasonable, sensible and practical. Please direct these rules toward issues that will address worker safety in a way that employers can reasonably follow.	cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The employer is not required to perform calculations or monitor the work site. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Brad Hutt Hutt Construction Inc.	The purpose of this email is to voice my concern and opposition to the current Heat Stress rule proposal. I do not feel this is a fair proposal on the behalf of the small business owners (SBO). This current proposal forces employers to control lifestyle choices made by their employees. Trying to monitor an employee's hydration level extends past the 8-hour work day. Forcing SBO to provide misting stations, air-conditioned trailers, and other cool zones will drive up costs for home-owners and continue to drive a wedge between L&I and small business owners. I urge you to scrap this current proposal and continue the dialog between both employers and employees to arrive at a practical and economical solution.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that employers are not required to provide misting stations, air-conditioned trailers, or other cool zones.

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		I am looking forward to hearing from you.	
General - Opposed	Rob Dunaway Rodona/Jaes Construction	It seems that you do not give employees (adults) enough credit to take care of themselves. Last year a rule was instated that required employers to provide water to construction workers on the job. Since when is it an employers responsibility to provide such an item? As long as I can remember it has been my responsibility to monitor my own water intake and drink more if my body needs it. Last Summer L&I determined that adults are not capable of such responsibility and put that burden on employers. As a small business owner, it was not always easy to provide bottled water on job sites. My company does not have a lot of money in the bank to provide such items, it should have remained as it always was, the employees responsibility to bring enough to drink throughout the day. No, L&I didn't think they were capable of making those decisions. Now, you are proposing additional burdens to business owners this Summer which now include monitoring air movement, humidity, if workers are in direct sun, what they are wearing, etc. I often have more than one job site going on at a time. I cannot possibly be at all locations monitoring such things. Never in my wildest imagination would it become my responsibility to monitor air movement! This cannot happen, you will put too much of a burden on an employer, take all responsibility off the employee, and thus create an environment for frivolous lawsuits that will put people out of business. Please do not allow this to happen. Small business owners are supposedly the backbone of America but Washington State does not seem to support that notion. Please re-consider this and place the responsibility where it has been for hundreds of years, on the individual themselves.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Providing water at a construction site has been a requirement since 1974. This requirement has not changed in the proposed rule. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. Employers are not required to provide bottled water – water can be provided through plumbed water, water fountains or water jugs. The rule has been clarified that employers are not required to monitor air movement.
General – Opposed	Matt Ryan	I just read an outline of your rule for heat stress requirements at every job site. If ever I have seen a bureaucratic overkill, this is it. I don't know who you hired to come up with this jewel, but I suspect he's from out of state and where it gets very hot. Where I live we don't have but a handful of days warm enough to justify air conditioning, thus we don't have one. And will you enforce this jewel between September and the following 4th of July when it's sweatshirt weather?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule has been updated to clarify that the rule applies from May 1 to September 30 annually. Further, the drinking water and responding to signs and symptoms requirements only apply during this time frame when the temperature action levels in Table 1 are met or exceeded.
General - Opposed	Ryan Schofield Aedifex, Inc.	As a small builder the proposed heat stress rule would cause me to spend a lot of time and money trying to monitor them. I have worked outside and built in Seattle for over 10 years. When I was a laborer, I never	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is

WAC Section	Commenter	Comment	DOSH Response
		had a problem drinking enough water, and I never had a problem with access to water. I'm not sure why L&I feels it needs to enforce that people drink water, when the body naturally tells you when you need water, and (1) quart per hour, that is a ton of water, I didn't drink that much water on the hottest days I worked doing the toughest jobs (again I drank what my body told me too). This rule is ridiculous and stupid, and a waste of my money and the taxpayer's money.	responsible for monitoring how often and how much water they consume.
General - Opposed	Mike Barnett	We oppose the Heat Stress rules passed last year. Only .00311% of all claims statewide were related to heat stress. In fact, last year's "emergency" heat stress rule generated 988 citations, totaling $10,970 in penalties, during a 4 month period. All citations were for "paperwork" violations. With the adoption of a permanent rule, L&I will be able to continue this trend year around. Please keep in mind that the adoption of rules such as these that make contractors jobs more difficult in WA state and contractors are a large part of what is keeping Washington State's economy so great	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department will issue citations if the employer is not in compliance with the requirement of a rule at the time of the inspection. The Department may review written programs as well as other elements of the safety program during an inspection. The lack of a written program can represent the level of compliance with this rule as well as other requirements. However, if the lack of a required written program does not result in serious hazards to employees, no penalty is assessed.
General - Opposed	Don Backstrom	The latest New England Journal of Medicine study indicates that the human body best dictate the need for water.... When your body say "drink" then drink..., Not when L& I says to drink. We provided all the required fluids on our crew trucks last summer, and never did the liquid get consumed. The crews indicated it was way too much and ridiculous to think you could consume that much... We experimented on a 95+ degree day, to consume, something close to the fluid required, per person, per hour.... The result was that after 2 1/2 hours one person threw up a stream of water and the others said they felt so bloated and sick that they could not, and would not continue. Come on, let be real, man has been able to take care of himself for many many years. You can't continue to make rules for those people who can't figure it out.... Do you put a guard on a pencil because some individual bounces it off the erasure and jabs it into his hand... Actual case that justified an L& I claim... You can't fix stupid... But you can impact small businesses to a breaking point.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Mike Arson Ventron, LLC	I've been involved in construction in Western Washington for many years. Last year my project manager and I attended a Heat Stress information session jointly sponsored by L&I and the Master Builders Association. While it was informative we both felt it was totally unnecessary considering where we work and where L&I for Washington State regulates. Texas, Arizona Southern California, sure lets discuss this matter. West of the cascades, in	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.

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		non-agricultural positions – please. It's simply unnecessary. I'd say that even one workers loss of life would be unfortunate due to not cooling off on an extremely hot day, but most folks were born with some dose of common sense. I personally cannot drink a quart of water per hour on a hot day. However, I do indeed drink water on a hot day when thirsty. Most folks I know do the same. Just because a worker dies of a head injury while going to or coming from work does not mean we should make the worker wear a helmet while riding in a car or truck. Regulations save lives and are necessary, but to far (as is the heat stress deal) have got to stop. Do you know anybody who has ever gotten glass shards in their mouth from trying to open a bottle of pop from the wrong end rather than unscrewing the top? We don't label a pop bottle open this end because common sense tells us to unscrew it not break the glass bottom. Common sense tells us drink when thirsty and hot. Please give workers the respect that they know enough to drink when hot and thirsty, as we know they know enough to come in out of the rain. Change things that need changing. Pray for the sense to know the difference. Stop this nonsense in its tracks – please.	In addition, an entire day's supply of water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.
General - Opposed	Stacy Carlile Moonlight Tile & Stone	I would like to express my concern and opposition of this new heat stress law going into effect. As a small business owner, I feel this would be an added cost to business owners that they simply can not afford in this economy. It is also a highly un-needed law. I am sure every citizen and business owner already does their part to reduce heat exhaustion. A costly law requiring mass paperwork is simply not needed. More education and seminars would be a more cost effective way to train business owners.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.
General - Opposed	Unknown	After reviewing the latest info on heat stress I have a few questions. First would be how are you going to make up the amount of pay that all of us in the construction industry are going to lose due to not being able to work a full week? What is planned to help construction companies survive these new rules that will prevent them from being able to complete a project on time and within a realistic budget? It is my opinion that LNI resources could be used better than this.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Training materials to help employers comply with the rule will be available on the

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			Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.
General – Opposed	Eric Fredricks Fredricks Fine Homes, Inc.	I believe very strongly in the mission of L&I and nearly always have felt its many rules are very much needed in the construction industry. However, the proposed heat stress rule should not be implemented. I would suggest instead that all workers should be required to sign and employers have in their employee file a statement that says that they have had read to them and have been provided for their own reading and records a document prepared by L&I explaining proper procedures for preventing dehydration and injuries caused by heat exposure on job sites. We could see if this reduces heat related injuries first before implementing more costly compliance procedures.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employees to be trained on the signs and symptoms of heat-related illness, as well as measures to prevent heat-related illness. Employers are not required to have employees sign any training documentation but they can do so if they choose.
General - Opposed	Samuel F. Brode Samuel's Repair & Remodel	I want to cast my no vote for the L&I Heat Stress Rule. I hope you realize that the claim rate due to heat-related problems is extremely low and to make the ruling permanent is going to add additional cost to all business, large and small. In the 15-plus years I have been in the construction trade I have seen only one heat-related problem and this was related to a roofing situation and the situation was corrected immediately. All contractors I have been around have advised workers in the summer heat on how to deal with it and have had water available. It seems to me that L&I should put out a directive that employers can post and give to each employee. If an employer is having claims related to heat, raise the rate for that company.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Employers can distribute the rule and all other informational materials on heat-related illness to their employees if they choose. The industrial insurance rates employers pay are based in part on the number of workplace injuries their employees suffer.
General - Opposed	Bill Henshaw Windermere Real Estate	The proposed Heat Stress Rule is totally inappropriate in that it puts an undue burden on the employer to monitor a number conditions on every job site which would be totally burdensome and costly. It would seem that the employee should know enough to wear proper clothing and drink liquids when it is warm. Of course the legislation doesn't say anything about be sure to wear a coat when it is raining or snowing. This is definitely overkill and I hope that your department would come to its senses and focus on the important items of making a job site safe through education not through adding additional things that a contractor must do to keep a job site safe. These are common-sense items that should be the responsibility of the employee, not the employer.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels.

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			Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.
General	Sandi True American Tree Service Inc	I visited the L & I website today, to get updated info concerning the new Regulations on heat stress. I know the L & I is updating the new Regs (making it nearly impossible to regulate, as a small business owner!) but I will do my best to meet the requirements….I believe they are trying to make it too difficult for a small business to document, etc!!!!! Last year, my employees and I got the Heat Stress Cards, etc, but I wish to be able to train my own employees, at a monthly safety meeting. Is it possible for individual employers (small Co with only 2 employees!) to train them so that I do not have to spend extra money and time in having them attend a separate class? We are too busy this time of year to take an entire afternoon or morning off work to go someplace for a meeting, when the training itself is only about an hour, including the video….we already have the First Aid cards/and yearly training. I do have monthly safety meetings and can easily fit the information concerning Heat Stress into my meeting, thus saving us time and money. I will be reviewing the info this month, as our weather gets HOT here in April and May, at times!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Employers may provide heat related illness training during safety meetings or "tool box" talks. Employers are not required to send employees to a special class. In addition, the Department has developed training materials for employers that are available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
General - Opposed	Noel Lawffer	I am very concerned about your heat stress rule that you are proposing. It is one thing to watch out for your employees' safety, but when we go as far as to tell them what type of material their clothes can be made out of on certain days, I believe it is going a little far. We try to ensure safety for our employees but you have to stop making so many rules if you want some companies to exist. I am not saying to drop all rules but just not so many rules for minor things. How many people are actually affected by heat stress compared to other weather variables. Possibly we should not work in the rain in the Northwest since it could lead to depression, carelessness, or just hazardous conditions.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the employer is only required to consider the type of clothing or PPE the employee is required to wear for their job duties when determining the temperature action levels. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard.

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			The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Ron Gregory Home Associates Builders, Inc	I'm doing my best to temper my language regarding another government intrusion in the construction workplace. (1) Why is this rule needed? (2) What data supports the need? (3) What is the cost/benefit ratio (4) Who is supporting this proposal & why? The timing of this is but one more example of the bureaucracy divorcing itself from the reality of a significant economic downturn in the economy. Your department needs a reality check!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

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			The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Labor representatives did request the Department consider adopting a rule following the death of a farm worker in 2005, and in 2007, Columbia Legal Services filed a petition for rulemaking on behalf of a worker who had suffered heat-related illness. However, given that heat related illness is a serious hazard, the Department independently determined rulemaking was necessary. Throughout the rulemaking process, the Department worked with business organizations, employers, employee representatives, and other interested parties on developing the rule language, meeting with these individuals on numerous occasions and holding many statewide stakeholder meetings.
General - Opposed	AJ Gomez Global Technology Solutions, Inc.	Why do we need such rule at all or in such magnitude. Employers should simply be expected to take reasonable precautions to avoid heat stress. That would be simple. Instead we add more non-productive requirements to 1000s of businesses who are working on shrinking profitability and fighting for survival. I have alarm techs in the field and they are at 25 sites per day for 10 techs. Shall I inspect all sites and report on each. Who am I passing those costs on to? My employees are supposed to make me $$$$. Any ideas on how to recoup the spending on this requirement? Most employees are expected to bring in 4 dollars for every dollar spent on payroll just to break even. We don't need this rule! I look forward to hearing from you.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to inspect or monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the

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			rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Leslie A. Roy Beto Gutierrez, Roy Farms, Inc.	Roy Farms would like to offer the following comments regarding the Department of Labor and Industries pursuit of an additional HRI rule. Currently, the Department of L & I has regulations governing heat-related issues under the field sanitation rules. No new rules are needed on this issue. The suggested HRI regulation will duplicate several regulations that are already in place, create and unnecessary burden of additional and redundant training, additional record keeping and loss of productivity for agricultural businesses. We believe the Department has not completely answered all the issues with the implementation of this new rule. As an example, which temperature reading site do we use for the implementation of the new rule? The microclimates within the Yakima Valley vary from area to area so how does the Department propose that this issue be handled fairly? Roy Farms respectfully requests that the Department of Labor and Industries abandon the proposed HRI rule, as there is no data available that supports their implementation of this regulation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. WAC 296-62-095 clarifies that employers are expected to address heat-related illness in their Accident Prevention Program (APP) if employees perform work outdoors and are exposed to heat hazards for more than 15 minutes in an hour. In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period

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			• During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. If an employer chooses to monitor the temperature, the employer may use any method they choose.
General - Opposed	Norman and Aurora Matson Ridgetop Construction in Battle Ground	As a small business owner, this rule will nearly be impossible to abide by and to survive as a small business. This is one of the most outrageous policies proposed so far by L& I. We are already burdened by rules that make our lives very difficult as small business owners. Also our employees, despise all these rules which are designed to slow them down and make them inefficient, therefore we all suffer financially. They even consider these rules as trying to deem them (the employees) as non-intelligent, unable to make simple decisions for themselves. They also dislike us telling them as you would tell a 5-year-old, how to dress, what to eat or drink, or even when to rest. They feel that they are mature enough to make these simple decisions. We are also wondering if these kind of regulations are not put in place by the huge corporations, who have a very personal interest in putting all kinds of impossible rules on the small businesses, for we are their competition. We definitely oppose such regulations. Please reconsider the implementation of the Heat Stress Rule. If you really want to help us, please reconsider letting us start working earlier than 7:00 am, between June and September.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. This rulemaking effort was initiated by labor representative requests after the death of a farm worker in 2005. Then, in 2007, Columbia Legal Services filed a petition for rulemaking on behalf of a worker who had suffered heat-related illness. Throughout the rulemaking process, the Department worked with business organizations, employers, employee representatives, and other interested parties on developing the rule language. The Department of Labor and Industries does not regulate when employers can start or stop work.
General - Opposed	*Unknown*	I am an employee in a small business. It seems to me that when 100% of 988 citations at a cost of over $10,000 is due to paperwork, not employee endangerment, we have a rule that doesn't make a whole lot of sense and harms business, therefore harming employees. I object to the heat stress rule as an employee.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department will issue citations, if the employer is not in compliance with the requirement of a rule at the time of the inspection. The Department may review written programs as well as other elements of the safety program during an inspection. The

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			lack of a written program can represent the level of compliance with this rule as well as other requirements. However, if the lack of a required written program does not result in serious hazards to employees, no penalty is assessed.
General - Opposed	Tim Cummings, Owner TJC Contracting	Please oppose L&I's latest proposal regarding temperature, humidity, etc., which L&I wants us to carefully monitor. We already are giving them the water required, the training with wallet cards, shaded areas, and appropriate breaks. If L&I is allowed to continue with the latest proposal then the next time they will want stricter rules such as 10-15 min. breaks every hour. This will make overall project cost only affordable for unions or big construction companies. Why don't they instead allow the builders to wear shorts and tank-tops (of course wearing sunscreen) along with their personal protection equipment, that would cool them off the most! My 18 framers would love that!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. WAC 296-62-095 does not require the employer to consider the humidity of the worksite when determining the application of the requirements. Humidity has been addressed in the development of the trigger temperatures in Table 1 of WAC 296-62-09510. The clothing and PPE rules in construction are not in the scope of this project. The clothing requirements in WAC 296-155-200 (2) are intended to protect employees from injuries due to carrying materials and working on unfinished surfaces. For more information on this requirement, contact Steve Heist at (360) 902-5582 or by email at heiu235@lni.wa.gov or Lisa Pogue at (360) 902-5729 or by email at Mckl235@lni.wa.gov.
General - Opposed	Christine Swanson Associated General Contractors of Washington	The AGC does not believe we should be here today. We believe the current rules that you guys clearly outlined in your presentation -- state law through the construction rules in 155, the ag rules, and in 24 and 62 and in OSHA cover all of this. So when going back and talking with our employees about the impact of this rule, the general response was we do this today. We are required to do this today. Why are they coming and bringing more regulations on us? So that's the bottom line with us. We don't think we should be here today. We are concerned about the cost of this rule-making and how much time and money has gone into it. You mentioned there have been two emergency rules, this rule, and between press releases, stakeholder meetings, public hearings -- for a rule that has little impact, little impact for the State. I mean, we come from a heavy-regulated industry,	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The

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		everybody in this room does. We have been talking about a fall protection rule with the Department for the last three years that we believe has a major impact. We're not asking for more regulation, but we're saying this is where you have -- our industry has a lot of injuries and deaths, and we want to work with you on a rule, and we can't get anywhere with you. So it's very frustrating from our side to say here is where you have a lot of impact, a lot of injuries, and we're willing to work with you to focus the Department's efforts in an area that has more bang for its buck, and then you guys spend the last two or three years, time and money and staff time and our time, on a rule that has such a minor impact to the state where you have current rules in place, so stick with those. The other piece that we want to talk about is that for this specific area -- this is why we have consultation. You have four deaths or one death. There are rules on the books. Use the consultation program. Send them out and talk to employers so they understand the rules. That's why that program is in place. But instead the Department takes this heavy-handed approach and directs it towards rule-making. So the AGC believes that we don't need to be here today. We believe the Department is taking a regulatory jump at this problem, and they should step back, look at consultation, look at what's currently on the books, and better target your resources that way.	requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department is continuing the development of the Fall Protection rules. For information on this project, please contact Jamie Scibelli at (360) 902-4568 or by email at scij235@lni.wa.gov.
General - Opposed	Bill & Sandie Turner Turner Construction Co.	As employers we strongly oppose the L&I Heat Stress rule. This does not apply to every job, is costly and is just ridiculous. While the intention is commendable, the only jobs that this kind of rule would benefit would be for eastern Washington orchard workers who are already working for little pay and being taking advantage of by their employers. Put the attention where it belongs and don't make unreasonable expectations for employers who take good care of their staff. Can't the employees bring their own water or is that too much to expect of them? Misting stations in western Washington – are you serious? Just how prevalent is this situation anyway? Pretty soon we'll have to provide cots and snacks for break-time. This rule is not needed for the majority of positions.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Employees may bring their own water to the work site; however, the employer is still responsible for ensuring employees are provided with water. The employee is responsible for monitoring their water intake. WAC 296-62-095 does not require the employer to provide misting stations. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to

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			the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Todd Olson Roots Incorporated	I am in direct opposition to this rule…employees should be responsible to monitor their own clothing types…we are not their mothers! Also, an employer shouldn't have to force a quart of water down the employee every hour…that is not our responsibility…they can drink when they're thirsty. I believe it is our responsibility to educate our employees as to the dangers, but we shouldn't be legislated to enforce common sense at a huge cost.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Larry Higginson Burton Construction	I'm the safety manager and head estimator for Burton Construction. We're not a small company like several of the people that have testified with only four or five employees. We're not a giant like Garco who does 250 million dollars a year. Burton Construction does approximately 8 to 12 million dollars' worth of federal construction as a general rule. We're in eight states. And I have written probably 400 or 500 site-specific safety plans, and I know the rules of Washington state, the EM 385-1, and of the other seven states that we do work in, and our safety plans comply with the more stringent requirements of all of them. I'm a bit shocked that this rule and this discussion is even happening because any	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.

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		employer worth their salt already provides water on the site for their employees and provides them with training on-site, job site safety meetings, training for their employees for CPR, first aid qualifications and things. And to think that we have to dictate to full-grown adults that they need to drink water and to monitor that consumption somehow, as compared to giving them training that says they should and then make the water available and then be perhaps responsible, as we already are, under the rules that exist for observation by a safety manager, an on-site safety person, the superintendent, and the lead person's standard of looking out for fellow employees to say, hey, Joe is getting hot and we've got to check him out, that kind of thing. I don't think it should be a duty placed on employers to babysit their employees in the area of the consumption of water. For my own part I spent 20 years in the Marines before I retired and came home. I have been in Vietnam. I was in during Desert Shield/Desert Storm. I've been to places where you have to drink a lot of water. If I was going to write a rule, it would be one that would have some measure of common sense. I would probably put forth that they would have training, which already exists and we already do. It would be something that would say the employer will have potable water on site for consumption by their employees, which the rules already state and we already do. And then if you wanted to set a trigger to force employees to drink, which I still can't fathom that you would be able to do, you should probably say something to the effect that whenever there are warm summer months and the temperature is in excess of 70 degrees, employees should receive extra encouragement to consume adequate quantities of water. And then you're done with your rule. You can take a horse and you can lead it to water, but you cannot force it to drink. What this rule forces me to do as a safety manager, on down to our project managers, down to my superintendent, down to the lead person, down to the employee, is take the horse to the creek and shove its face underneath the water. I don't think the rule makes sense, and I thank you for your time.	
General	Joe Ratto	We're a remodeling company in Bellevue. And I'm also the chairman of a legislative policy	The Department appreciates the time taken to provide this comment and recognizes the

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- Opposed	J.A. Ratto Company	committee for the BIAW. I have two questions for you basically. After giving some thoughtful consideration to this rule, I'm reminded of Frank Chopps' initiative with regards to unregistered contractors. I want to keep my comments specifically to the heat stress, but it's kind of a big meditation so forgive me. The Department of Labor and Industries came forward with regards to the underground economy basically with the premise that said we are broken, we do not have enough compliance officers to effectively control the illegal contractors in this state, you know, the guys who have no license, no registration, no insurance, no bond, none of that stuff. We need help in the industry on this. So my first question is if L&I is not prosecuting illegal contractors because they don't have enough compliance officers to do that, how is L&I going to enforce this rule? That's not a real big meditation, but if you can't do one, how can you do the other? The second thought that I had was how do I approach -- not just I, but every contractor in the state -- if I figure based on your estimates that it's going to cost $17.30 per day to comply with this based on your estimates, and if I have a 250-workday year -- let's assume everybody gets two weeks for vacation, so that's five working days times 50 weeks. That's $4,325 per employee. I would like to know what the Department's position is on each one of us contractors, whether we are new home builders or we're remodeling contractors -- how we are going to go back and tell our customers that the cost of their new home or the cost of their remodel is going to grow exponentially based on this unfunded mandate from the Department?	concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	John Ahern House of Representatives – 6th District	Thank you very much for hearing all the good folks behind me and myself too. I'm the State Representative of the 6th District right here in Spokane. I just learned of the hearing that you folks are having, and had our staff come up with a couple of concerns here, and I'd like to go ahead and read those, if you don't mind. It says currently only three one-thousandths of a percent of claims statewide relate to heat stress. Apparently this is not a widespread problem. For a company with 20 employees L&I estimated that the cost to comply with the proposed rules would be quite high. As a matter of fact, the compliance costs would be about five times higher for small businesses than for large companies, so you need to keep that in mind. And also you have to keep in mind too that in a slowing economic, adding another layer of regulation to employers will only hurt the economy, I think.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The estimated benefit is to the employers would impact the employers directly and not through the Department. This may be in the form of lower premiums, reduced time loss injuries, increased productivity, etc.

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		This will also add significant costs to employers, while having very little impact on protecting the employees. Providing additional education to employers and employees, not regulations, I think would probably do this. One other thing. I do have a question to ask. What is the Department proposing to do with the money they will supposedly save because of this rule? Will it be returned to the employers or who will pay the cost for compliance with this rule? So I think that's one of the key things we need to look at. Now, one of the things -- when I'm not in session, I have a small business here in Spokane. It's an office equipment business. I network with another large company to sell their equipment with them. One of our customers that I talked to yesterday is a roofer here in town. I asked Dick, I said do you have any questions you'd like me to pose to the L&I director, and he said yes. He said he was approached by an L&I individual that came in and asked to see the rules, if he had the rules. Well, his secretary wasn't there at that particular point, and immediately the individual from L&I said I'm going to write you up a citation, and it was going to cost something like $400. And then the secretary came back and opened up the file drawer and did get the rules that they had gone through, in other words to show that they had read the rules and would comply with those. The key thing is that I have received in the last several years since I've been in the legislature a lot of complaints from small employers throughout the Spokane region of the heavy-handedness of L&I inspectors that come in. They're very, very quick to write up a citation, which is going to cost the employer a certain amount of money. I would recommend that L&I would get back to basics, and that is to become customer-friendly. Instead of coming in with the idea that you're going to write somebody up and come up with this extra money in the form of a big fine, why not give them a penalty warning ticket for a first-time offense, rather than garner all the extra money that they're going to garner? As for specifically the heat-stress rules, I have to tell you something. When I was in high school, back in the '50s, a couple of years ago, I lived back in Maryland, but I was originally from Montana, and I wanted to go out and see my relatives up in Montana and also work on the ranches. For the next five summers from the time I was 16 until I was 20 I bucked hay bales every summer in Montana, around Chateau, around Bynum, over in the Helena area and so on. I tell you what, we would buck hay bales and stack loose hay. I was getting a grand total of six bucks a day. That was the	

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		going rate, plus board and room. And, you know, when you went out to work in the morning you'd have a straw hat on, a light-colored hat. I would recommend that one of the things -- if you're going to go ahead and write the rules here, you might recommend that the workers have a straw hat of some sort, not a dark billed hat because that will absorb -- you know, dark colors do absorb heat. When we were out there working -- we didn't work eight hours a day at 16, no, not eight hours a day. It was ten hours usually. And we'd have about a half-hour or 45 minutes for lunch. Occasionally, we'd take a break in the afternoon if it was hot -- and believe me, some days got pretty close to 100. We'd take the water -- we had these muslin bags that would sweat, you know, and any time you were thirsty, you'd just go get a drink of water. So that's basically what we did really. I remember on one of the hay crews receiving livestock out in Chateau, we had one of the fellows -- he was an immigrant from Sweden. He was 75 years old working alongside us 16 and 17-year-old kids, and there was no problem when it came to heat or anything like that. One thing that I want to mention -- and, of course, you do have to have breaks and so on, but I've read over some of these rules right here, and I think what you're doing really is going to a situation that you had a couple of years ago. Remember the ergonomic rules that you had? And, of course, L&I was very insistent on pushing those rules through. Well, what it took -- it took BIAW to come up with an initiative, and they killed that pretty much immediately. So the way I look at it is that I really think this is an initiative -- if you keep going with this, this is really an initiative that needs to happen. And in the words of State Representative Joe Schmick, this is definitely a solution waiting for a problem. So I think my advice would be to, number one, be customer-friendly. And number two, come up with some sensible rules that people can understand.	
General - Opposed	William Murphy Shamrock Paving	This is obviously a difficult situation. There's a lot of variables, of course, that affect heat stress, and you've named a couple of them here in your rule. There's temperature and humidity, which you've identified. Some of the things you have not identified would be cloud cover and wind. And because of these variables it's obvious that L&I has struggled with the rule, and the reason I say that is that it's taken them awhile to come up with a rule, and they've been through a couple of starts and stops with the interim or emergency rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clearly allow employers to address heat-related illness in their Accident Prevention Programs.

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		And so I think there's probably acknowledgement with L&I that this is not an ideal situation for a complex regulation such as this. My thought would be that you might be better off and make it more simple if you had just a general statement under the general duties that employers will acknowledge in their safety plans that heat stress can be a problem and that they will take appropriate action to provide water in cases where the temperature exceeds say 100 degrees or something like that. That in essence is much simpler, and you don't run into some of the problems that you're going to run into in this rule. For example, you talk about double layer woven clothes, and you give an example of cotton and such, but really there's going to be a question as to whether that's an adequate definition and whether, in fact, things such as a vapor barrier and woven clothes should actually be in your definition session. So if you could keep it simple. I think everybody would acknowledge that heat stress is a potential problem, but it seems to me that a simple requirement that people acknowledge that in their safety program may be sufficient, and I'd like to have you look at it that way. The other thing if you cannot find your way towards what I just said, requiring a simple statement in the safety plans, would be something in here that might save us all a lot of trouble is if you could have what they call a safe harbor where if an employer has not had any previous violations with respect to heat stress that they will be presumed to be in compliance so that they don't get a surprise inspection and maybe get a citation, as the Representative before me said, for merely paperwork violations when, in fact, it has never been a real issue for this particular party. What I'm basically saying is if they have not had any violations with respect to heat stress that the party would be presumed to be in compliance and, therefore, they would not get a citation for merely a paperwork violation.	Definitions of “double-layer woven clothes” and “vapor barrier” have been added to WAC 296-62-095.
General - Opposed	Merlene C. Shoemaker Mehlenbacher Farms Inc.	Please receive these comments below for the record regarding the Heat Related illness rule under development by the Department of Labor and Industries. My name is Merlene C. Shoemaker. I am president of Mehlenbacher Farms, Inc. We farm approximately 1000 acres of Sweet Corn, Alfalfa Hay, Peas and Potatoes. We employ about 8 full time employees and an additional 10 to 15 seasonal employees. We currently: • Test all of our water on a regular basis	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives.

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		• Have potable drinking water available near work areas. • Have at least one "heat stress" safety meeting before we start harvest each year. • Encourage all of our employees to drink as much water as they feel they need. • Have provided "neck coolers," water bottles, hats, and other items to insure the safety of our employees. Many times we then find the items thrown away creating "garbage issues" with our crops. We have "food safety" issues with which to comply. • We have provided cover over machines as much as possible. • We value our employees and want our highest and best for them. • Employees are encouraged to be responsible for themselves and bring adequate food, appropriate clothing, and water with them to work. We train them that we are there to be sure that everyone is safe and has what they need-They are first responsible for themselves. • We have a heat stress policy in place. • We have no opposition to the "spirit of the rule" we believe all living things have the right to seek and maintain healthy and safe conditions which include their ability to deal with heat related illness issues. • We do not need more rules. We want to have some latitude to do what is right in a way that fits out operation and our employees. Here are my comments. • The department should not pursue an HRI rule. The current General Duty clause holds us accountable as employers without burdening us with so many additional "rules." To add more stand alone regulations requires more recordkeeping and written procedures. • Training and record keeping already take up a great deal of our time. We have many Federal, State, and Industry specific (GAP) regulations with which to comply. Adding more to out plate seems burdensome and unfair. We have many "food safety" issues to deal with. Misting over the work area would be in conflict with "food safety." • I believe that the cost of this policy is far greater than your "economic advisors" indicate. The lost work time alone will exceed your projections. It seems that you are planning a rule and expect us to comply adding more cost to our operation, yet assume that we can just "absorb" the cost. In Agriculture we already run at margins that many business arenas would consider "too slim." I believe the economic impact for our farm will far greater than you project. Even using your own calculations it would cost my farm over $43,000.00 annually.	Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The definitions in WAC 296-62-095 have been clarified. In addition, definitions were added to alleviate confusion in Table 1.

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		• Please realize that we appreciate your offers of "free training." However you must realize that training is the tiniest part of the cost of implementing this policy. The time of our top people taken away from crops to implement this policy will be a hidden cost. Those hidden hours of cost the lost hours of our most valuable people is huge. We already have 1 employee dedicated to “compliance issues.” That does not count the hours of our top managers. • I believe that it is fair to ask the employees to participate in their own "health." It was stated that this is under the "health" issues. Therefore, I believe that there should be latitude to expect full participation and preparation from employees to their own benefit. The employer should not bear the sale burden to insure proper work clothing, food, and water. • Your own statistics do not warrant a full blown "rule" to be implemented. Greater awareness of employer's already existing duties to their employees would be sufficient. When, over a 10 year period, there are over 1.44 million claims and only 446 are due to HRI, does not warrant its own stand alone rule. • The rule and its definitions are ambiguous and incomplete. Examples are (but not limited to): o Work clothes o Ambient temperature o Heavy labor o Long duration o Other environmental factors	
General - Opposed	Ed Orcutt	I'm from Kalama, Washington. In the interest of full disclosure, I will tell you that I'm a State Representative from District 18. However, I'm not here on behalf of the State Legislature. First of all, I would like to say that most of the people in this room seem to be employers, so now you're going to get a chance to hear from an employee. In my other job I'm a consulting forester. Eight, ten, twelve or fourteen hours a day. To have to require me to carry a quart of water plus any other supplies I may need, a quart of water per hour for a 14-hour day means I have to carry three-and-a-half gallons of water. If I'm out marking timber, I also have to be carrying paint with me, in addition to the three-and-a-half gallons of water. Sorry, I can't do it. I physically cannot do it. I don't think I can physically drink that much water anyway. It was mentioned earlier that OSHA already has a rule. Let's consider for a moment that OSHA is a federal rule, and we're in the northern part of the United States, and that rule has to cover people in Arizona, New Mexico, Texas and the Southeastern United States. It seems to me that that rule if it's adequate to cover folks in the south should be adequate to cover folks in the north. If it's not, then I think the better approach is to educate workers. Quite frankly, you have no idea how heat affects me. I have no idea how heat affects you. So how can you come in here and tell me that I	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The

WAC Section	Commenter	Comment	DOSH Response
		need a certain amount of water, I need a certain amount of rest when it gets to a certain temperature, especially if you don't know how rigorous a job I'm doing? It makes no sense at all. It was mentioned by Ms. Brackenberry that it's going to be very difficult to administer this rule. The young lady right here (indicating) and the gentleman right here (indicating) already have disagreed on what this rule means, and it's not even implemented yet. If you can't agree, how can we expect your inspectors to agree? How can we expect these folks to read their minds to know what they're going to cite them for or how they're going to interpret the rule. You can't do it. You can't do it. And neither can they. You're basically setting these folks up to be fined. It's guaranteed that somebody back there is going to get fined if you can't agree with her on the way this rule is supposed to be, on what this means. Furthermore, let me use a term that a former colleague of mine used. We're becoming a nanny state. You're telling everybody that they have to -- that they don't know what's good for themselves, that somebody has to take care of them. When I go to work in the morning, I have to figure out what I'm going to take with me for lunch and what I'm going to need during the day. I may be in the office for the first four or five hours of the day, get a phone call and have to go out in the woods for the rest of the day. My employer may be in Mt. Vernon and I'm in Kelso. There is no way that my employer can provide me with water from that distance. It's impossible for some businesses to comply with this. Again, it's worker responsibility. My wife and I have an eight degree temperature differential in comfort range. Does that tell you anything right there? I swear to God, my wife is comfortable at one temperature, and I'm moving the thermostat eight degrees. It's happened for the past two or three years. Educate workers and let them know that when you start experiencing these symptoms, then you need to do these things. Affordable housing. A recent study from the University of Washington showed that the cost of a house in Seattle has gone up about $270,000. $200,000 of that is the result of regulation. This is one more regulation that's going to drive those costs up even more. Furthermore, it was mentioned earlier today that the cost is going to be 10 to 28 million and the benefit is 21 to 50 million. My question for you is that the difference is 11 to 22 million, so which number are you going to use, 11 or 22 million, to reduce these folks' L&I rates because if there truly is that kind of a savings, they're the ones that should be getting it. The bottom line is that this rule is unnecessary, it's costly, it's going to result in an increased cost to them with no reduced costs, and it is a rule that should not be implemented. It should be dropped, and you should focus on things that are much more important than telling people whether they can handle heat or not. Thank you. And with that, I do need a drink of water right now.	requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The estimated benefit resulting from this rule would be in the form of lower injury/illness rates, which would likely result in lower premiums for an employer, greater productivity from workers, and lower administrative costs. The employer would benefit directly, not through the Department.
General - Opposed	Mark Shaffer Mark's Drywall, Incorporated	I represent myself, and my company is Mark's Drywall, Incorporated, out of Lacey. I just have a couple of things, and I won't repeat some of the things that have already been said. I particularly appreciate the comments from Will Stakelin and Any Brackenberry from	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		the Building Industry Association of Washington and Master Builders, which I'm a proud member of. I agree with what they had to say exactly. They really did a great job researching that and talking with the members that actually pay these bills and try to comply with these rules, and I think they speak from a very knowledgeable and well-researched position. One point that I wanted to bring up that hasn't been brought up, and I think it's probably one of the interesting things, is that you guys talk about writing rules to protect employees. These kinds of things and these kinds of costs cost family wage jobs because when we no longer can afford -- these are labor costs no matter how you slice it. You can call it business or whatever, but it doesn't make a difference. These things are directly costs that are associated with employing someone. And the reality is that I find it interesting that you guys talk about writing these safety rules for the worker, but these very same rules that you don't enforce cost us jobs. As other people have referred to, those who don't play by the rules skirt all your rules and, therefore, they don't have the costs that legitimate employers already carry for complying with these rules. I think you should really consider the effect that has on construction workers. It's very easy to hire people and pay them cash. They see none of this training. They see none of the training that I do or companies like mine, like Lakeside and like Tim and like others that are members of trade associations that are trying to do the right thing. I think that's something that you really ought to consider.	The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Jayme K. Mattson Grey Lundberg, Inc.	I appreciate the opportunity to provide written comments in regards to the proposed heat stress rule. I sat in on the public hearing in Yakima and realized that most of the responses align with my viewpoint. As Vice Chair Elect for the ResCon Safety Group of the Master Builders Association of King and Snohomish Counties and as Director of Operations for Grey Lundberg / CMI Homes, Inc., a custom home builder, I feel very strongly that more regulations at this point in time may financially hurt many builders and trade contractors. The economy will eventually turn around, however, at this point in time, we need to be very careful about adding any regulations which may increase costs. Over many years, our company has developed a set of best practices which includes mitigating heat related injuries or illness. A few of the best practices which are taught to each employee and trade contractor: in depth training to our employees on the signs and symptoms of heat related stress, we educate our employees on how to deal with an instance of heat stress, we have weekly toolbox meetings which include the topic of heat stress, we provide water to our employees and trade contractors and have shaded areas for our employees and trade contractors to rest while it is hot outside. Many of our trade contractors have taken it upon themselves to adjust their working hours so that the heat is not affecting their work.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp. Sharon Drozdowsky is coordinating free training courses. If you are interested in participating, please contact her at (360) 902-4622 or by email at dros235@lni.wa.gov.

WAC Section	Commenter	Comment	DOSH Response
		A proposed solution, rather than more regulation, would be to provide a training course for the local home builders associations. This training course could be provided through special groups- such as the ResCon Safety Group- which I am a committee member. Training holds a much greater appeal to builders and trade contractors and allows the atmosphere for learning, which is what is needed in this situation. I hope that Labor and Industries is willing to re-think the proposed heat stress rule and is willing to provide training, not regulations.	
General - Opposed	Russell Unrein Scholten Roofing	We are a roofing contracting firm that will directly affected by the proposed heat illness prevention rules- WAC 296-62-9510-09560 out for public comment. We have also review the comments of the Independent Business Association regarding proposed revision to these heat illness prevention rules. Our company believes that these revisions and the original proposed heat illness prevention rules are unworkable for firms like ours. Our first concern is the substantial amount of rules and regulations that our industry is already confronted with. Currently here is a list of our company specific plans; Hazardous materials communication program MSDS Accident Prevention Plan Drug and Alcohol plan Fall Protection Plan Safely Plan Blood born Pathogens Plan Asbestos Abatement Plan DOT vehicle Management Plan EM 385-1-1 Plan Hazardous Materials Usage Plan Severe Weather contingency plan Lead Abatement Plan Demolition Plan Fire Prevention Plan Hazard Analysis Plan Affirmation Action Plan for Construction Affirmation Action Plan for Handicapped Affirmation Action Plan for Veterans	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The rule language has been updated to clearly allow employers to address heat-related illness in their Accident Prevention Program. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.

WAC Section	Commenter	Comment	DOSH Response
		Affirmation Action Plan for Americans with Disabilities Crisis Management Plan Human Resources Plan Emergency Response Plan Environmental Protection Respiratory Protection Program Site Protection Plan Some of these plans will have to be modified to comply with OSHA, WISHA, and or the Corps Engineer's EM-385 manual. In addition these plans may need to be modified and remodified to suite each government agencies personal desire. Due to this excessive amount of plans, the implementation of a Heat illness Prevention plan would require countless hours of work for a requirement that happens on the average 2 days out of the year and maybe 4 working hours of those two days, in which heat illness is a factor. In addition to this we feel that in the original heat illness prevention rule we find that the funds used are significant in comparison to the days in which the rule will apply. This rule applies an extra $17 dollars per day per employee which on a regular job of 15 employees will burden the employer of an extra $63,750 per year. It was indicated in the meeting in Washington on Apri1 29th that two days in Washington hit the above the limit of 89 degrees Fahrenheit. This calculates out to approx. $31,875 for each of those days to have a heat illness prevention plan. In addition the average temperature in Washington never reaches above 75 degrees Fahrenheit Another concern we have is the amount of water the workers will be consuming under the new plan proposes an increase in fall hazards. This is due to the fact that the workers will be removing themselves from the roof at an increased variable due to the forced consumption of larger amounts of water (1 qt. per hour) and therefore the risk of a fall related injury is amplified immensely. In the last 30 years our workers have been working in safe conditions without the use of a heat illness prevention plan and through our accident prevention plan we continue to make sure that our employees are in safe conditions and well hydrated and therefore, because of this there is no need for the heat illness prevention rule. Our company believes that the proposed heat illness prevention rules are an inefficient	

WAC Section	Commenter	Comment	DOSH Response
		waste of time and money for something that is already implemented into each firm's practices.	
General - Opposed	Mary Meier Simmons Glass	I was at the Bellingham Public Hearing on April 29 2008. I choose not to speak but to send in my written comments. I felt that the hearing input brought up issues and comments that I agree with and support. In addition to extending my support to the comments made at the hearing, I am in opposition to the proposed rules for the following reasons: The rules will be costly (as per your cost analysis) and unmanageable with crews that go to many job sites through out the day as our do. We are usually the sub-contactors at many of the job sites. We do both interior and exterior work. The circumstances change with each job location. The cost has to come out of already lean budgets for small employers. Do we cut employee benefits in health care, reduce staff, or delay salary increases at a time when our economy and families need additional dollars to keep up with the raising cost of gasoline and food? This applies to larger employers as well, but especially to our portion of the northwest region where we have many small employers. It was stated in the Bellingham Public Hearing session that I attended that the trigger temperature for the Seattle area was reached approximately 2 days out of the year. Have you taken into consideration that Skagit, Whatcom, Island, and San Juan Counties are cooler areas than Seattle? The proposed rule does not consider the different areas of our state. Employee responsibility is a major factor in enforcement. I can have a training session; I can give out handouts; I can ask them if they all understand the implication and responsibilities of such rules but I can not make them comply. But who will be held responsible for employees not following the rules ... the Employer. Not only will the responsibility be on the employer but the fine will too. In relation to the proposed rules, there are rules on the books already that L&I can enforce and level fines against. Register contractors in the construction trades train employees in First Aid, CPR, provide water and extend rest periods at their expense. The time and money spent on the proposed rules would be better spent in trying to catch the unregistered contractors and the underground system of paying under the table. When our employees work for them on the weekends, they come to work tired already. They may have accidents and injuries while working for the unregistered contractor but claim	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. WAC 296-62-095 applies when the temperature action levels are met. The rule will apply more often in areas of the state that more frequently have temperatures at or above the temperature action levels. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.

WAC Section	Commenter	Comment	DOSH Response
		that they were injured "on the job" to be able to collect L&I benefits. Become more aggressive in this area. These unregistered contractors do not pay Employment taxes, L&I taxes and B&O taxes. Stop putting more and more rules on the registered contractors who try to abide with all the many rules already on the books. The state can raise much more revenue if the underground economy can be harness. I hope that the efforts of many at these meeting is not the usually dog and pony show but each one is taken into consideration. These rules should not be enacted. especially now with the current economic conditions.	
General - Opposed	Linda Eller Eller Corporation	I attended the hearing on May 1. I agree with other contractors at the hearing with regard to the construction industry. LNI already has rules in place to address heat related illness or stress and already requires that construction workers have current first aid training. The new proposed HRI rules require foreman and/or supervisors to monitor employees' water consumption and/or condition and then also to evaluate symptoms. First aid cards allow employee's to render first aid but do not require that they do so. Thus, if they do not feel confident to render assistance, they can simply call 911 for EMTs to determine health problem of other employee(s). I feel the new HRI rules that state employees are responsible for their own water consumption and that also states employers are responsible through their foremen and supervisors to monitor employees will create citations being given out for violating this new rule and existing "safe jobsite/workplace rule" when an employee fails to self monitor. The employer will then be "failing to monitor properly" and construction companies will then be involved in the lengthy and costly appeals process for any HRI related citation(s). Please consider that the rules for the construction industry in place already are sufficient. Providing listings of symptoms of heat exhaustion versus heat stress or stroke are helpful and should be continued by LNI to educate all employees (not Just foreman or supervisors) about this portion of first aid education as it relates to outdoor work. If rules for HRI are needed to address specific issues for agriculture or firefighting, they should be separated from construction rulings.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard.

WAC Section	Commenter	Comment	DOSH Response
			OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Mary Ann Filippini Northern Marine & General Contracting, Inc.	I was in attendance at the Bellingham hearing yesterday. Just for the record ...no one that came to that hearing was there in favor of the proposed heat stress rules to ever become permanent. It was very obvious, to me, that we were all opposed to the new section outlined in the proposed WAC 296-62-095. How much time & money has been spent on this proposal to even get this far? I see it as time and money wasted by your department. It would have been time & money better spent on cracking down on un-licensed contractors in our State who don't follow the rules in place!!! As I said at the meeting, these rules could be justified in areas of California's Central San Juaquin Valley or in desert regions of Arizona...but not here in Washington State. Your panel even stated that on the average, only 2 days a year reach temperatures of 89 degrees or higher. I also mentioned that these rules are a prime example of ridiculous and burdensome regulations that are being imposed by government agencies riding on the coat tails of the Global Warming HOAX. It's plain to see that L&I is attempting to seize upon an opportunity to grab additional revenue...plain and simple. The rules also imply that it's okay to drink a quart of water each hour for 8 hours. That is 2 gallons...and also the possibility of another danger, drinking too much water. I mentioned several cases at the hearing where people have died by consuming too much water. I am not in favor of these rules becoming permanent. As I stated at the meeting, cold weather is more of an issue here…not hot weather. By the way, I am not suggesting that you begin to dream up rules to save ourselves from cold weather hazards at the workplace.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.
General - Opposed	C.W. Crider Skagit/ Island Counties Builders Association	The Skagit/Island Counties Builders Association would like to enter their comments in opposition to the proposed Heat Stress Rules. The proposed rule will be very costly to small and large businesses alike and is truly unnecessary. Our above conclusion is based on a number of things that even your data supports. They are: • L&I's own objective claims data demonstrates a lack of necessity for a rule regulating heat stress. In ten (10) years there have been 446 claims out of 1.44 million that are related to heat stress. This information includes both outdoor and indoor claims and is a total of.03% of the total claims over 10 years. Circumstances involved in those claims could very well not support the need for this rule as well.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department

WAC Section	Commenter	Comment	DOSH Response
		• The Small Business Economic Impact Statement conducted by L&I clearly states the cost for compliance would be approximately $17.30 per employee each day. For small business, this might not sound like much but in the overall cost structure for the year, small businesses with 5 employees (as a lot of our members have) would pay approximately $22,490 to be sure they comply with the rule. • There are bigger and more important issues that L&I could focus their attention on than this essentially small problem (.03% in 10 years). How about unregistered contractors? Wouldn't it be more beneficial to spend the money ensuring compliance in the registration realm of the industry? • The old adage "you can take a horse to water, but you can't make it drink" comes into play here as well. Regardless of how much water an employer provides for his workers, the employer cannot require them to drink the water that is mandated by this proposal. Drinking too much water would be a real problem and could easily result in injuring the employee as well. Many employees provide their own liquid each day already and do not drink water. How do we address these people? And, why should the employer be responsible for providing something that will not be utilized? Current laws for employers in the construction trades already require the training necessary to administer first aid, provide water for the employees, and provide rest periods for the workers. This is law and is what should be enforced. Masses should not be punished by the lack compliance of a few. These laws were in place during the past two summers when two workers allegedly perished from heat-related conditions. This was unfortunate and the employers were found in violation of some of the laws but it doesn't mean that new laws should be written or put into play because of the actions of few. It is clear that these employers ignored the current law so, why would they not ignore a new law? If L&I would enforce their laws that are currently on the books, a lot of the perceived problems would be taken care of. Enforcement consequences are nothing new in the proposed rules -they have been on the books for years and not complied with by a very few employers and not administered by L&I when they should have been. It is clear that there are enough laws on the books already (that will stay on the books) that will protect an employee. And, why doesn't the employee have a little personal responsibility for their well being instead of putting ail the responsibility on the employer? Other state, in the nation do not have such laws. In the Desert Southwest, employers look out for their employees because it is the humane thing to do. Are we different in the Pacific Northwest where temperatures never reach the height they do in the Desert Southwest? Are employers in the Pacific Northwest inhumane? It certainly seems that L&I believes this might be the case.	considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.

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		In our association, I have never been advised of any heat related issues since I have been the Executive Officer here. Our member companies are very careful to be sure they are in compliance with the rules set down by L&I. There are "cowboy" workers that will not comply once the boss is gone and' many cases this is why employers receive citations for non-compliance with a safety issue. It is still the employers fault -even though they have briefed every employee on safety and the need to comply. The employee is not held accountable then either! When will L&I stop requiring employers in this state to almost baby-sit their employees? It is already very expensive to do business in this state and another rule will only exacerbate the situation. Take for example B&O tax that every business pays on "Gross Receipts." Then consider these new rules L&I is proposing that will only add to· the cost of doing business without any deduction or any tax relief for compliance with new laws. The bottom line is that if L&I would enforce the laws on the books today, many of the perceived problems would not exist. Just because a couple of employers allowed a situation to go too far (we don't know if it was entirely the employer's fault) and two of their employees expired due to heat stress conditions, does not mean "mass punishment" of the rest of the work force is merited. We have attempted to get a couple of unregistered contractors caught and cited over the last few months. There are not enough inspectors out there now to take care of the needs that currently exist. How will L&I ensure compliance with a new law when they cannot enforce current law? Lastly, this proposal reminds me of the ergonomics rules that were proposed a few years ago that were very costly, burdensome and were being imposed by regulators that have never had to run a small business of their own. The Skagit Island Counties Builders Association would like to see L&I be more aggressive on enforcement of unregistered contractors who are a burden to the system when an injury occurs. It is our understanding that even though they are unregistered, they are allowed to enjoy workmen's compensation support when injuries occur at the expense of those contractors that are doing business correctly. We would also like to see L&I enforce current law rather than making new rules that will be more expensive and will surely require the hiring of new employees to be sure they are complied with. Hire the new employees and enforce what is on the books!	The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General -	John Norris	I am saddened to see the heat stress rules back again. I understand that these things are done with good intentions. I have 35 years in the construction industry in Seattle and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed		Phoenix Arizona. These rules for the Seattle area are quite frankly "crazy". Our employees are quite capable to know when they are overheated and whether they need a break in the shade and or a drink of water. I know of no incident in all my years in the field of any employee ever being penalized in any way for taking a break when they are overheated. I have never seen any worker in the Seattle area ever suffer from any sort of heat stroke. What are we fixing? I would love to see your data of all of the fatalities from heat stress in the Seattle area. Does anyone in government get the concept of affordable housing? Right now we are facing a crisis in the affordability of housing. After food shelter is the next most important thing that people need. It feels like my industry is under attack from my government. Time and time again the government has come up with mandates that make housing cost more, but I can not tell you of one proposal from the government that would make housing cost less. Moms and dads are working their tales off trying to afford a house for their families. If you pass these heat stress rules you will be hurting families. Attached please find the non biased UW economic study that blames mitigations and regulations for 200,000 dollars of the cost of the average home in Seattle. At some point maybe we can get common sense out of our government, but I am not holding my breath. *Attachment*	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. At this time, there have not been any fatalities due to heat-related illness in the Seattle area.
General - Opposed	Christine Swanson Associated General Contractors of Washington	I am writing today to submit written comments on the above rule. The AGC also testified at several hearings across the state. The AGC continues to oppose this rule for of the following reasons: • We do not believe that this rule is necessary for Washington. As noted by the Department's own staff at the public hearings, there are rules already in place within OSHA and in several DOSH Washington Administrative Codes. Employers are required to have a written Accident Prevention Plan to address all hazards – heat related illness being one. • We believe the department should focus its resources on better enforcement and consultation of the current rules. As was also noted at the hearings, the most recent	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness.

WAC Section	Commenter	Comment	DOSH Response
		deaths due to heat-related illness involved employers that were not complying with current rules. Better enforcement, rather than a redundant layer of rules, would be the better way to prevent tragedies. • We are concerned that the Department is spending scarce resources on a rule that has little effect. It has already been a costly three year process to address a problem that represents less than 1 percent of injuries. This is in contrast to the fall protection rule making process. AGC has been working with the Department on improvements to a rule that addresses a much more prevalent safety issue. The heat stress process is perhaps diverting Department resources that could be used to bring the fall protection rule making to a positive conclusion. • In summary, the AGC of Washington opposes the rule proposal.	The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department is continuing the development of the Fall Protection rules. For information on this project, please contact Jamie Scibelli at (360) 902-4568 or by email at scij235@lni.wa.gov.
General – Opposed	Terry Gresswell	I am completely opposed to this rule. In the Ag business how is going to be monitored? We do provide water but seriously a quart an hour? A normal person on a given day will not drink a quart an hour and thus two gallons a day. The benefits to this rule can not justify the cost. When we have 120 people in an orchard on a given day is the state going to provide a water truck? We provide the customary breaks and lunches so his is paying these hard working people to not pick the fruit to get in the required amount of liquid? The theory maybe good but the cost and I mean real cost is very big.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. In addition, the water is not required to be provided at the beginning of the work shift. Employers may provide employees access to plumbed water or have a method in place for refilling water dispensers.
General - Opposed	Ryan Schofield Aedifex, Inc.	L & I is proposing a new Heat Stress Rule that I find to be ridiculous, I writing to you with hope that you can help defeat it, as it would adversely effect my business, which has already been affected by the current housing market. The rule, which L&I plans to adopt on June 4th, is scheduled to become effective on July 5th, 2008. Public hearings begin next Monday, April 28th. This ridiculous rule, which will become permanent once adopted by L&I, will require	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has updated the rule language to clarify that keeping a temperature log, maintaining a cooling station, and evaluating environmental risk factors are not requirements of WAC 296-62-095. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of*

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		employers to adopt a written heat stress plan and provide training for workers and supervisors in a language the employee understands. One quart of water per worker per hour will be required when certain environment factors are present. The latest proposal from L&I will also require employers to carefully monitor the following conditions on every job site: o Temperature o Whether the workers are in direct sun, partial sun or shade o Relative humidity o Radiant heat from the sun and other sources o Conductive heat sources such as the ground o Air movement o Workload severity and duration, and o Amount and type of clothing worn by workers (i.e. "cotton" "vapor barrier" etc.) This proposed rule is complicated, unnecessary and costly 1. The rule contains a number of 'implicit requirements;' things which aren't explicitly required but employers will be forced to do anyway to prove compliance, including: a. Keeping temperature logs to demonstrate climate awareness b. Maintaining cooling stations in the event of a potential Heat Related Illness (HRI) c. Evaluating "environmental risk factors" which could affect exposure to HRI, such as i. Radiant heat ii. Humidity iii. Air movement iv. Conductive heat v. Heavy labor or work task with long durations 1. Even L&I's own, objective claims data demonstrates a lack of necessity for a rule regulating heat stress; a. 446 claims out of 1.44 million in ten years - and that includes indoor <u>and</u> outdoor claims. That's three-thousandths of one percent over a ten year period. 2. The Small Business Economic Impact Statement conducted by L&I indicates the cost of compliance for small businesses to be $17.30 per employee per day. *Estimate your company's cost of compliance.* 3. The heat stress rule is disproportionate rulemaking - focusing on what is essentially a small problem at the expense of losing sight of bigger, more	*L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Throughout the DOSH rule, heat-related illness is mentioned briefly in rules for wildland

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		dangerous workplace safety issues. 4. All employers strive to provide safe workplaces and many already protect workers from heat illness - but this rule goes overboard, won't do more to protect workers, and just gives L&I more reasons to write citations. 5. California is the only other state with a similar rule - a state where it's not uncommon for temperatures to reach more than 110 degrees. If regulators in states like Arizona, Oklahoma, Texas, etc. don't see it as a necessary burden to place upon employers, why do Washington state's regulators? 6. Just like the ergonomics rules from a few years ago, this is just one more costly, burdensome regulation imposed by overzealous regulators who have no idea what it takes to run a small business. 7. The rule as proposed will have a disproportionately negative impact on small businesses, according to L&I's own Small Business Economic Impact Statement. L & I needs to enforce their current rules - not adopt new ones Current laws for employers in construction (and agriculture) already require first-aid training, an adequate water supply, and mandatory rest periods for all workers. These laws have been in place for years, and were in place during the past two summers when 2 workers apparently (and unfortunately) perished from heat-related conditions. The employers in these cases were found to be in violation of at least some of these laws. How will the imposition of new laws upon all employers provide any greater protection than the old laws which were not being adequately enforced by your L&I? And why does L&I believe that employers who ignored the old laws aren't just going to ignore the new ones? There is nothing wrong with current laws - which, by the way, remain on the books. L&I may assert that some employers won't use common sense to protect their workers unless there are possible enforcement consequences. Possible enforcement consequences existed *before* L&I imposed the emergency heat stress rule, but it didn't compel at least two employers to follow the law then - what makes you think it will now? It could potentially lead to more frequent and more hazardous workplace injuries to workers L&I needs to focus on making sure employers protect their workers from real and more likely workplace hazards instead of focusing on new regulations mandating common sense.	firefighters, emergency response, compressed air work, and agriculture. These rules lack a comprehensive set of requirements to assist the employer in identifying and eliminating the hazard. The Department believes that the adoption of a comprehensive set of standards that applies across industries will assist the employer by informing them of the Department's expectations for evaluating and abating the hazards at their work sites. The rule accomplishes this by providing specific requirements that allow the employer to determine the most appropriate compliance method for their worksite. In addition, this also provides consistency for DOSH enforcement when they are conducting worksite safety and health inspections. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet of exceed the temperature action levels and will be need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are

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		Examples: o *Slipping off ladders due to rushing up and down every 15 minutes to get a drink of water* o *Falling off the roof because of the rush to take off and put back on safety gear every 15 minutes* o *Increase in knee and other joint problems due to excessive, repetitive climbing up and down ladders every 15 minutes - up to 32 times in an 8 hour day* o *Slipping on wet surfaces because watering stations will likely end up muddying the worksite from spilled water* o *Hyponatremia (drinking too much water)*	deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees.
General - Opposed	Bill Tucker Lakewood Ford	I have been listening to the talk about the Heat Stress Rule being proposed by L&I and want to voice my opinion in the matter. I am deeply concerned about the impact this rule will have on our economy and the overall safety of the work place. There have been so many work place rules put in place that employers have realized both huge “cost of doing business” increases, and production decreases do to the extra manpower and time to comply with the rules. In some cases I have heard that the implementation of a new and cumbersome set of rules has actually increased the exposure to hazardous conditions! This ruling will have the potential of introducing new hazards to building crews, and roofers working in areas requiring a ladder to access, by requiring them to every 15 minutes to go down a ladder and get a drink of water from a watering station set up by the employer. This will make the job more dangerous because the potential for a fall or knee injury from excessive trips up and down a ladder. I believe this Heat Stress Ruling is totally needless in the state of Washington! The numbers of serious injury or death due to heat stress is such a low percentage that I find it ridiculous to think we need a Rule to force people to do some thing that 99.9% of the people do anyway. If put into place as a requirement I believe it will have a crippling effect on our hard working construction companies and farms. I do appreciate a safe work place but I believe that “common sense” has not been given its proper place in the work place. Too many rules have had an accumulative burden on companies in this state, and threaten to force many smaller companies out of business. Washington is becoming a state thought of as a hostile state toward small business	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees. The Department believes most employers are committed to providing a safe work environment for their employees. These employers will likely be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095.

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		because it forces regulation on these small companies and chooses to ignore their valid concerns. Please take note of my opposition to this ruling proposal when conducting your public hearings.	
General – Opposed	Art B. Waldal Waldal Homes	You don't know me. I am Art B. Waldal owner of Waldal Homes in Clark County WA. I have been in business in Washington since 1979. I used to have 9 employees and am glad I don't have any now. I have never heard of such a bunch of stupid ideas as this heat stress rule. There is no way we are going to get people to drink the amount of water that this ruling suggests. 1 What we going to do have a bell on the job that rings every 15 minutes tell every body they need to drink their water? 2 What if they say no? 3 What is the penalty for a person not drinking the specified amount of water? 4 How is L&I going to police this dumb ruling? I've been in business for 29 year and have only seen them on my job 2 times. They don't do their job policing unlicensed contractors how they going to do this? 5 Since when are we supposed to dictate what kind material a persons cloths can be made of? Please have somebody answer these questions and then email me the answer. Just try drinking 2 gallons of water in one day and by the end of the day you will feel disastrous. I don't care how hard you work and in what heat it ain't happening. I have tried to get people to drink water in the past and it ain't happening. Besides the fact that if you drink that much water you are going to have to pee all the time. Have you ever tried to drink 2 gallons of water a day. I want who ever is in charge to get a copy of this email if possible. I am convinced this ruling is not a good idea and is way overboard!!! Hey what it is going to do is make more people work under the table a most of the eastern block immigrants do here anyway. I know a framer who has 6 people on his crew and they are all officers of a corporation. They don't even have to deal with all the L&I regulations period.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.

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		This big brother government strong arm tactic isn't going to work. Please put me down as against this ruling	
General – Opposed	Unknown	I think that your new emergency heat stress rule is going to help to destroy our states economy. This new rule is unnecessary and overzealous. The Department of Labor & Industries has really gone off the deep end by trying to assume that all employers and employees are not smart enough to know when to get a drink of water. What is next with you morons? Are you going to push for a new rule to tell employers and employees when to come in out of the rain? Here is an idea! Why don't you idiots move back to California where you came from.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General – Opposed	Topher Smith	I am concerned about the current proposed legislation regarding imposed Heat Stress Rules. I'm a registered Democrat and I voted for our current Governor, and I also work for a small business. I just can't understand why small business is continuously harassed by unjust and wasteful regulation that does not benefit the workers and increases overhead for the owners. Arizona doesn't have regulations for workers to drink water, why on earth	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.

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		should we? This law would be nothing more than forced hydration (similar to what the army requires all soldiers to do over in Iraq). Have we come to a point in our society where our state government is arrogant enough to tell us when we need to drink water? Let the workers decide when they want to drink water. Do we really need to have this conversation amongst our elected officials? Isn't their more important legislation that should be debated? Please vote no.	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Jennifer Walsh	I can't tell you enough how much I oppose this new rule that L&I is trying to ram down the throats of the employees and business owners of this state. I have been in the construction business for over 25 years. My husband and I had a small construction company for over 26 years. We never had a complaint lodged against our company, worked hard to maintain a good safety record, and had to close finally because the cost of doing business in this state was just too much. Now I do bookkeeping for many businesses, several of them in the construction industry. So I am totally aware of the repercussions on the employee and the small business owner (both good and bad) of the Department of Labor and Industries' rules. There are so many safety requirements in this state that are really important, and I am all for supporting those requirements. However, there are way too many unnecessary rules that just don't make sense! The heat stress rule is a major mistake!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made

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		The expense of this rule will be catastrophic to small businesses and contractors in this state. By L&I's own economic impact statement, it will cost approximately $17.30 per employee per day to comply with the new heat stress rule. If you have an average of 25 employees during the summer months (that can be as many as 5 months in some areas) that would be roughly $45,000. How can small businesses absorb such a cost! The answer would be to size down the company for many employers, or worse close their doors, or make contractors operate without a contractor license to avoid paying taxes and complying with the rules!! So now L&I is directly responsible for causing higher unemployment in this state, and more unlicensed contractors. Then there is the jeopardy this rule will put on the employees themselves. How many more times a day will employees have to go up and down ladders to go drink their quota of water. The risk of injury from a ladder fall goes up dramatically. What about taking safety equipment on and off excessively. Will some worker think that that one strap is just too burdensome to fasten each time?? Water will spill around the water station - how many workers will be injured from slipping? This new rule focuses on what is essentially a small problem at the expense of losing sight of bigger, more dangerous workplace safety issues. Current laws for employers in construction (and agriculture) already require first-aid training, an adequate water supply, and mandatory rest periods for all workers. These laws have been in place for years, and were in place during the past two summers when 2 workers apparently (and unfortunately) perished from heat-related conditions. The employers in these cases were found to be in violation of at least some of these laws. How will the imposition of new laws upon all employers provide any greater protection than the old laws which were not being adequately enforced by your L&I? And why does L&I believe that employers who ignored the old laws aren't just going to ignore the new ones? I urge you strongly to oppose this new rule proposal. It is complicated, unnecessary, and costly.	to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General – Opposed	*Unknown*	Please, enough is enough. If there is a business or labor contractor who is so stupid about the effects of heat, shut them down. Agricultural workers in our area start at daybreak when weather is extremely hot and are stopped sometimes as early as 10 a.m. if temperatures demand it. How did we come to this? Who will make sure the employee drinks the correct amount of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA,

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		water? If someone tells you that they didn't realize that extreme heat causes problems, refer again to beginning paragraph, shut them down. Just set an arbitrary temperature degree that stops all outside labor. Yes, that is a sarcastic suggestion, because if a state has to try to enforce common sense, we are in big trouble. L&I says 'no, no, we're just trying to educate people about heat related stress'. Again, if the state has to do this, the trouble is already here. I should not be surprised when I see an ad called FeedThePig.Org on television. I guess the ad tells people how to put money into a savings account. Hello, is anyone out there?? I am not going to sign my name to this letter. Over the years, I have dealt with numerous state employees who have helped me to comply with the ever increasing rules, regulations, paperwork, etc. Most of them have been really great, but a few have not.	NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
Specific	Cliff Schultz, Art Tile Co.	I am very concerned that the new Heat Stress Rule you are considering will do nothing but increase the cost of operating a small business in an environment that is already exceptionally challenging relative to most States. As an employer it is obviously in my best interest to make sure their needs are met. But having a government entity dictate how much and how often they are to drink water is ludicrous. Has L&I taken into consideration the possibility of water intoxication or hyponatremia? If employers are over zealous in enforcing liquid in take requirements will additional rules to avoid too much intake be forth coming? Please look at the list of rules and regulations we must abide by now and recognize what an unnecessary burden one more rule would be.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department does not believe that implementing the requirements of WAC 296-62-095 will create additional hazards for employees. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Allison Clark	We oppose the heat stress rule because there are no clearly defined parameters for the rule. We have no problem providing water, shade, ect. and keeping our employees safe and healthy, but the when and why part of the rule is too vague. Please vote no to the rule until the definitions are better.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirements of WAC 296-62-095 apply to employers who have employees who work outdoors:

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			• For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF) Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

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General – Opposed	Senator Bob McCaslin	I want to go on record in opposition to the Department of Labor & Industries' Heat Stress Rule proposal. It is yet another example of an unnecessary rule that will hurt businesses in Washington state. I would appreciate you explaining to me the logic behind this proposal, and a cost analysis to implement versus benefits.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General Opposed	Stuart Drebick Adroit Contractors Inc.	I am a local builder and have been in business for more than 20 years. I was dismayed when I see that your agency is again pushing for unnecessary regulations in regards to Heat Stress. The statistics show that only .00311% of all claims are heat stress related. This is a very small # of claims to pass such a burdensome and costly rule. The agencies economic impact statement states a cost of $80,000 per year for 20 employees. That is $4,000 per employee, which is nearly $2 per hour. We pay less than $3 per hour for our coverage with L&I. so you want us to pay close to double for such is a	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives.

WAC Section	Commenter	Comment	DOSH Response
		minute risk. If this is to be able to write more fines to help balance the budget raise our fees do not pass a rule that is not needed or wanted.	Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice.
General -	Jeff Dawson	Thank you for your hard work for the people of Washington State. Regarding proposed Labor and Industries "Heat Stress Rule". I would ask that you consider a few concerns I	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed		have before it is signed into law. As an employer in the construction industry, I am concerned about worker safety and well being because I like my employees, and they are valuable people. In its present form I think this proposed law is really needless legislation which puts an unnecessary burden on employees and employers. I have worked all my life in the hot sun in summer and in the cold in winter doing either construction work or farm work. I know first hand what it is like to sweat, but this country was built on sweat and hard work. When I wan an employee working on construction sites, I always brought adequate water, food and clothing for the weather conditions, hot or cold. I think that this is the responsible thing to do. I don't think we need legislation for what should be common sense actions. The problem we have in this state and in this country is that there is less and less personal responsibility and accountability and more and more government mandated interference in all phases of life. We are gradually killing the country we love. It is my understanding that less that ½ of one percent of L&I claims are related to heat exhaustion, etc. And of those claims, I wonder how many would have been helped by this proposed law. In short, I think the people of Washington would be better served if the Governor and the legislature would spend more time each session in getting rid of burdensome and outdated laws and less time trying to create more laws.	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Dennis Smith Industrial Safety Consultants of Washington	I have to admit that I didn't sign up, but I would like to testify. I own a company called Industrial Safety Consultants of Washington. I work for about 12 different companies to different extents. When the economy is good, that entails over 400 employees. I would like to address a little bit the cost analysis. On the cost analysis, the employer is going to be burdened with this rule if it's instituted. The rule says the employer is responsible to assure basically that water is provided to every employee that employer has. I have companies that have up to 12 crews that are out on a daily basis. One employer, who has the responsibility for all these crews and the office and providing materials, transportation, all kinds of things, cannot be going around to each job site each day. Therefore, in order to meet his responsibility of assurance of this water being supplied, he must have someone to do it. I don't believe that is taken into account in your cost analysis whatsoever. I have one company that I represent that makes three percent on the gross of his profit. I cost that employer $800 to $l,000 a year. I don't believe -- again, that's part of what I don't believe is in your cost analysis at all. On another note, I came from L&I. I worked for the Department for 26-and-a-half years. I started in 1977. This	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be

WAC Section	Commenter	Comment	DOSH Response
		rule was in place in Chapter 62, the industrial hygiene rule book, Chapter 62. Through 26-and-a-half years with the Department, this never came up as a training tool for any inspector. I was also a supervisor out of the Tacoma office for 13-and-a-half years. This was never a training subject by the Department. Since there is a rule already in place, the Department should be training its inspectors to use the rule that's there, not instigating another one. And I think that's enough on that subject. I think I had one other thing I was going to bring up, but I'm getting old and I use hair oil and everything slips right off my mind.	taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Darren D. Neubauer Gasline Mechanical Inc.	The heat stress rule as written is a bad law in search of a problem that rarely exists in the HVAC industry. Occasionally we are forced to go into hot attics and repair an existing system. In those cases common sense prevails as the main course of action we take. 1. We know that if it's that hot we don't want to stay in the heat for more than 15 minutes at a time. We don't schedule new work for these conditions until after it cools down naturally, (we go in early to do the work) or work night shifts after the attic space cools naturally. 2. If water is needed by my one or two man crews they pack it with there lunches. Most all job trailers on larger projects have a water dispenser provided by the general contractor if a worker forgets to pack his water. If the average company has to keep records and make a mandatory plan for this limited amount of exposure and it costs each small company 80,000 a year to maintain. It would seem to me that we could actually find a real problem and invest 80,000 in that. The above statement was the response of the owner of the company I work for, and I truly agree whole heartedly with what he had to say. Thanks for hearing my opinion.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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		Please do not support the heat stress rule.	
General - Opposed	Kellene Richards Prodigy Homes	My son and I co-own a business called Prodigy Homes. We build Green Built Energy Star certified homes. One of the things -- one of our policies is that our employees have health benefits and that type of thing, so we're very caring in regard to employees. I'm here in opposition to the rule today. I want to take the opportunity to speak. One of the things I would rather address, if you don't mind, is a broader concept of the rule, and I just see -- the rule is four pages. I see a trend to escalate rules and procedures for good contractors and not actively enforcing current rules for the contractors that either aren't registered or -- especially unregistered contractors. I think your timing -- I look at the timing. We live in a current climate where costs are escalating. I just got a notification that cement is going up $4 a yard. Asphalt for roofing has had a seven percent increase. And fuel costs are going up dramatically. The general contractor in business today can't afford anything -- you use numbers like it's just $900 or something, but it is $900, and you have to look at it as a cost, and I don't think anybody has any way of knowing accurately what that number is in the final analysis. I think in the interest of affordable housing, this rule is very harmful. And the other thing is that I think that the focus -- as a business person or a general contractor or anybody that owns a business, you only have so much time and so many available resources. Personally, I would rather put my time and my energy -- rather than coming to seminars in regard to heat stress, I would like to learn more about Build Green programs, Energy Star programs, and things of that nature that build up the environment about me and are productive for me as a business person. My L&I rate did go up dramatically for no -- I don't know why, but they are increasing. And so the main thing is that I would like to see policies -- more attention given to streamlining policies so we can understand them. Maybe making them so there are less policies for the business person, rather than the Department creating four pages of new policy. And so I would like for you to consider that, and I do oppose the rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Bob Johnson	I have been in business now for 24 years and never have had one L&I claim, and I hope I can go out with a 1,000 percent batting average. I care about people, and rules and regulations up to a point are okay. Like anything in life, they can get excessive and they can get out of control and we can get regulated to death, and I think if a person is intellectually honest in this country, this country is over-regulated in so many ways that it's becoming a burden on the very fabric of our society. As far as people having water and safety and health, I'm 150 million percent for it. The current rules that are there, I believe, are plenty. And again, like everybody said, they need to be enforced and structured in a manner where it is best for the employee. I don't think anybody in their right mind would ever deny an employee water to drink, and if they would, I would find that person to be close to Hitler or something like a concentration camp. You'll certainly never find that on	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be

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		any of my jobs. There's always water, and there always has been and there always will be. I too grew up on a farm, and when I was little I would hoe corn or dig ditches or whatever, and my dad did not give me water to drink. He taught me that I took it out for myself, and I believe people have personal responsibility in this, besides the employers. The employees should also bring water. One person was saying that they work for piece work and the person wouldn't furnish him any water. Well, you can go down and buy a five-gallon jug for probably ten bucks and fill it with water for a nickel and you've got enough water to last you all day. So some of it is personal responsibility also. Again, I would never want to do anything that would ever hurt an employee in any way, shape or form, so I want to make that perfectly clear, but I have a feeling that this agency is over-regulating us, just like they wanted to do with the ergonomic rules, and it does insult my intelligence to suggest that I don't either know how to care of people or that I don't care enough to take care of them, and I do, and you can check my records and you will see that I do take care of them. I believe the young lady right up here said that the reason these rules were brought about was because -- and she used the word labor, if I remember right. So, therefore, I assume that's labor unions. I hate to reduce it to this, but a lot of things in the state are reduced to politics, and if the labor unions want something like this and are pushing hard on the Democratic regime to get it done, then that's the equivalent of votes, and I know where our governor is going and she wants to get re-elected, and I'm sorry to say this, but I have a sneaky suspicion that a lot of this is motivated by politics because there are rules on the books that take care of people and there are people in this state that care about their workers and their employees. And the few that don't, I think we've got those covered, and if you find them, then you should fine them, and they should pay. There's no question about that. But I think enough is enough, and I don't believe that the State should tell me that they know how to run my business better than I can. Can they assist me in that and help me in that? Absolutely. I know they can. But it's sort of a meeting of the minds, and I hope that's what we have here today, and I hope we have balance out of this whole thing. That's all I'm after, just balance, just fairness and equanimity across the board so that people are protected and safe, but yet where it's not carried to such a degree that it's bordering on ridiculous. Thank you very much for listening to my diatribe, and I appreciate what you do. Try to keep it just where it's level and decent, if you would please.	taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Farrell Clontz	I'm a local contractor. I've been in business for 30 years here. I've worked outside as a driller, worked in 100 degree summer all summer, and lately in the last 30 years I've been an employer. All the boys know to get in the shade when they need to and wear warm boots in the winter and a jacket when it's cold. The rules are too far-reaching. I also feel that your cost estimates are way off. I think it's going to be a lot more expensive. A lot of our jobs are smaller. We move quite a bit. It would be too hard to try to keep up with that.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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		They know to get in the shade. The rules are in place now. The boys are all supplied with water jugs. They know to fill them and put ice in them. I feel it's too far-reaching, and I hope you abandon it.	
General - Opposed	Philip Holt Leisure Pool and Spa	I represent Leisure Pool and Spa in Kennewick. I just want to express my opinion that I want to oppose the rule. I think we are over-regulated in this state. It is another new rule to try to make business harder to conduct, and it's more paperwork and regulations to be responsible for that I think is unnecessary. I think people should be somewhat responsible for their own health and that they should know when they are thirsty and I think it's only common sense that employers would provide water. I think they do. What I find sometimes with people is that they are self-motivated by production and sometimes will ignore common sense values like getting a drink to be productive in the piece work environment or something like that. I'm not sure an employer should be held responsible for a person's own personal work standards. If we have breaks in place and have responsible actions on the part of the employer to provide things like shade and water, I think those would be adequate. I think those rules are already in place, and I don't think we need a new rule to enforce.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Todd Kunzman Andgar Corporation	We're a subcontracting company based out of Ferndale, Washington. We have 140 employees. It grows a little bit in the summertime. I have a couple of questions or comments. I won't be nearly as eloquent as Mr. Perkes and a few of the other gentlemen who have been up here. I would question the data that this ruling is based on. One of the things we talked about earlier was this 466 cases and three-thousandths of one percent.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are

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		That is not the greatest opportunity to spend our money on, and it is collectively our money. We talk about there being anecdotal information relating to additional cases. You know, anecdotal information is not something that we're allowed to use or talk about when we're discussing claims and when we're dealing with court. We deal with facts. If there's an L&I claim or a citation, we have to deal with facts. So in a rulemaking like this it shouldn't be considered. I agree with what has been said prior. We care about our employees. No one needs to tell us that when it's hot out they need to have water and if it's excessively hot they need to have rest breaks. We do it because we care about our people. We are a construction company, but we are a people-based company. The people who show up to work every day are the core of our business. They're what gets the job done and they're what keeps us moving forward, and we don't lose sight of that. We focus on safety because it's the right thing to do and we care about our people, not because of any rule or law that's made or passed. When you look at the actual law that is being proposed, a lot of things come to mind. It seems through all of this we are taking out personal responsibility. We hire adults. We hire skilled qualified craftsmen. They are intelligent people. I think it's okay to give them that responsibility.	exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Tom Herstad Building Design, Inc.	Count me in opposition to the new ridiculous "heat loss rule" as proposed by L&I. The current laws and rules are more than adequate. According to L&I it could cost small business $17.30 per employee per day. That is a big hit and I personally can't afford it. This is just more 'big government' which we need less of.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's calculations for the SBEIS and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General -	Rick Anderson Washington	Please accept my comments regarding WSR 08-10-006, Heat Related Illness Regulation. I am opposed to the proposed regulations as the issue is currently adequately addressed	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed	Farm Bureau	in WAC 296-307 (Safety Standards for Agriculture) which requires orientation about heat related illness and establishes standards for drinking water for workers in agriculture. I have spoken with a number of farmers about the issue and they feel that it is an unnecessary addition to existing regulation. It was suggested and highly recommended, that a more effective approach would be for the Department of Labor & Industries to expand their outreach efforts rather than implement additional rules. This would include a greater effort to get educational and training materials into the hands of employers and workers through videos, handouts, workshops, train-the-trainer, newspaper & magazine ads/articles, TV clips, signs, displays at public events, etc. In other words, invest in education and training and make it readily accessible – and in multiple languages common to the industry. I recognize that some material exists and there have been some outreach efforts primarily through various Association events and activities. These have probably had more impact on raising the level of understanding and compliance than any written rule ever could. I have participated in many of these and used them at work – it is effective! Effective outreach accomplishes several things: understanding of the issue, buy-in by employers and workers, learning ways of implementation that work, compliance with existing regulation, and ultimately a more positive perception of the Department. In summary, the proposed heat related illness regulation is unnecessary and instead, direct efforts to expanded outreach.	Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. Training materials will be available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
General - Opposed	Mitch Williams MF Williams Construction Co., Inc.	We are very concerned about the management obligations and the cost of these proposed heat stress rules. In nearly 30 years of operating my construction company I have never seen or heard of a problem related to this issue. While it is certain that people have become 'hot' it has never entered my 'radar' screen that people were absent common sense to protect them from this issue. It is one more example of government looking for problems and imposing common sense in the form of bad law. I strongly oppose these rules, they seem ridiculous when thinking about monitoring what	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is not required to monitor the clothing the employees wear. However, required PPE is required to be considered when determining the trigger temperature. The employer is not required to monitor the temperature. Training is required to be provided and the employer is required to address heat-related illness in their Accident

WAC Section	Commenter	Comment	DOSH Response
		clothing people wear, what the temperature is at regular intervals, monitoring water consumption or availability. These examples demonstrate just how out of touch with the real world the people are that write these rules.	Prevention Program when the employer has employees who work outdoors: • For more than 15-minutes in any given 60-minute period • During May 1 through September 30, and • When the triggers are met or exceeded (i.e. 89ºF). When employers expect temperatures to reach the temperature action levels at their worksites, employers can chose to ensure 1 quart of water is available for each employee every hour during the work shift and respond to any employee who shows sign of heat-related illness. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
General - Opposed	Carl Gipson Washington Policy Center	The Heat-Related Illness (HRI) Administrative Code (WAC 295-62-095) is a regulation that still has several holes in it and could cause confusion among small businesses and employers. There is insufficient data to support the necessity of the rule – while every on-the-job fatality is a tragic event, an examination of the extremely infrequent fatalities – three since 1995 – caused by heat exhaustion over the past two decades shows that the new rules would most likely not have prevented these deaths. Current WAC rules already provide for common-sense ways that employers can help promote employee safety. We feel these new rules will do little to prevent HRI incidents that more effective enforcement of current statutes would otherwise handle. Merely reducing the fines against small businesses for violating the act versus the fines levied against larger firms is an insufficient mitigation of the concerns and the costs small business employers face on this issue. Imposing a reduced fine on small businesses that fail to produce a written HRI action plan is an insufficient mitigation of the small business employer community. Attempting to regulate the behavior of employees based on a matrix of temperature, humidity and direct sun exposure, we believe, would get in the way of employees using common sense to take care of themselves. No employer wishes harm to their employees and state statutes already stipulate that employers must "provide and use means to make your workplace safe." (WAC 296-800-11010) Similarly, WAC 296-307-09512 provides for "suitably cool" potable water to be provided to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

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		employees "engaged in hand-labor operations in the field, without cost to the employee." Several other existing WACs also provide for the protection of employees from inclement weather, regardless of the time of the year. Washington is only the second state, other than California, which introduced its requirements in 2005 to implement a heat related illness regulation. However, Washington's rule includes stipulations that California's does not – such as the temperature trigger and weather evaluation requirements. Many in the business community are worried they will be fined or cited due to misreading the complex environmental triggers. The HRI rules may be based on an earnest desire to protect employees, but in actuality the regulations will do little to actually help workers. The rules will only increase the regulatory burden and costs associated with running a business in Washington. L&I's own economic impact statement estimates that implementation could cost a business with as few as 20 employees up to $83,000 a year plus another $50 a year per worker in training costs.	Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees a supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made

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			to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Jenny Franklin	I am writing you to voice my concerns over this rule being put into effect. Not only will this rule cost my company ridiculous amounts of money it will also cost my employees money. I don't know about you being a government employee and getting paid by my tax dollars and tax dollars of my employees but we need to keep all the money we can in our pockets and not pay it out over some stupid ruling that will do nothing except cost us more money. I could see if it will actually do something that will help but the percentage of workers that are affected by heat stress is very minimal compared to other things and I only see this as a way for L&I and the government to make more money off of small businesses. We already pay 46% of the state's taxes (including your wages) so I say put our money to better work and catch all the former employees that sit on L&I when they could be out working. Stop wasting and start doing something that will benefit who you are suppose to be helping.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	B.J.R. Inc.	This letter serves as written notice that I oppose the proposed rule to protect workers in hot weather. I oppose the proposed rule because it is unnecessary and redundant rule making. Current laws for employers in construction and agriculture already require first-aid training, adequate water supplies for employees and mandatory rest periods for workers. L&I needs to enforce their current rules and take action on employers found to be out of compliance – not adopt new rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. DOSH does not regulate rest breaks. Mandatory rest breaks are regulated by the Employment Standards division of the Department of L&I. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what

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			they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General	Mary Dickinson Building Industry Association of Whatcom County	My name is Mary Dickinson, I'm the Governmental Affairs Director for the Building Industry Association of Whatcom County. I'm also a licensed attorney in the state of Washington. The Building Industry Association -- and I'm here representing our over 600 member companies. The Building Industry Association of Whatcom County welcomes the opportunity to comment on this proposed heat stress rule. We are opposed to this rule for some of the following reasons. The rule is cumbersome and will be difficult or employers to comply with and for the public to understand. We received a flow chart from L&I explaining how to comply with the heat stress rule, and it's two pages and meanders all over the place. There are so many different variables that it will be difficult for an employer to write a safety plan that adequately defines all of these variables as will be required by this new proposed WAC. L&I's own research has stated the lack of necessity regarding a rule regulating heat stress. There have only been 446 heat stress claims out of 1.44 million L&I claims in ten years, and that has been both indoor and outdoor claims. That is three-thousandths of one percent over a ten-year period. In addition, the Small Business Impact Statement conducted by L&I indicates the cost of compliance for small businesses to be $17.30 per employee per day. With the small amount of claims and the sudden impact to small businesses, it does not seem prudent in this uncertain economy to place a new burden on business owners. Due to the small amount of claims, the confusing compliance structure and the lack of constitutional and procedural safeguards in this proposed heat stress rule, we request that L&I not pass it. L&I needs to focus on making sure employees are protected from real and more likely workplace hazards.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the

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General - Opposed	Shelly Short	I live in Stevens County, City of Addy, Washington. For the last 14 years I've worked on behalf of federal and state legislatures and know the 7th legislative district very intimately. That district is largely comprised of a lot of outdoor industries. You have agriculture, logging, mining, construction to name a few. I think the thing I reflected on as I read through the information is what steps has L&I taken to work within existing rules and to utilize those rules to the fullest extent, the existing rules in dealing with heat stress related situations. That didn't come across clearly to me. Given the impacts to small business, they're very severe. The costs are great. We all want safety. We all want the employers and the employees to be safe, but at the same time I think given the costs that our small businesses are going to incur, there's a real need to make sure that you're explaining that and to show and quantify what you did to work within that existing framework that didn't work. We know that there have been situations, and death is never something that we should take lightly, but at the same time there's no quantification of how you worked within the existing rules, and I think that's necessary when you're talking about adding costs to such an extent.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard.

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General - Opposed	Joe Walsh Central Washington Home Builders Association	I'm the Governmental Affairs Director for the Central Washington Home Builders Association. We represent approximately 792 businesses throughout central Washington. We also would like you to seriously reconsider this rule. Representative Chandler said it most eloquently. He echoed our concerns quite well. I would like to start off with some applause, if you will, for the educational aspects of what you are proposing. That is essentially the basis for our submittal here today. We provide considerable educational opportunities for our membership, and I think I can go out on a limb here and say that we would entertain, seriously entertain, taking this educational opportunity to our membership. Essentially we believe this perceived problem should be handled in an educational way, rather than a regulatory way. We believe the Department of Labor and Industries has adequate authority right now over workplace safety. Anything the Department could provide in the way of additional training opportunities, educational materials, to both the employer and the employee would be of great benefit. For the benefit of those behind me, I would like to read from a WAC that I believe gives the Department all the authority they need over the workplace and its degree of safety, and that's WAC 296-155-040 “Each employer shall furnish to each employee a place of employment free from recognized hazards that are likely to cause serious injury or death. (2) Every employer shall adopt and use practices, methods, operations, and processes which are reasonably adequate to render such employment and place of employment safe. Every employer shall do everything reasonably necessary to protect the life and safety of employees. (3) No employer shall require any employee to go or be in any employment or place of employment which is hazardous to the employee. (4) No employer shall fail or neglect: (b) to adopt and use methods and processes reasonably adequate to render the employment and place of employment safe. (c) To do everything reasonably necessary to protect the life and safety of employees. (6) No person shall fail or neglect to do everything reasonably necessary to protect the life and safety of employees." I think that's pretty clear. You can lead a horse to water, but you are not going to make	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.

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		them drink. You can encourage employers to use your educational materials, but you can't make them do it. I think this rule, if it goes forward as presented today, would have the same effect as choking that golden goose that is keeping the State of Washington going right now. I would encourage you to reconsider the regulatory aspects of the rule and make it a strictly educational opportunity.	
General - Opposed	John Crawford Crawford Construction Company	I represent Crawford Construction Company of Yakima. I have been in business for -- I'm second generation so for over 50 years, and the reason that I would like to come and chat with you this morning is to tell you something of my experiences in this area related to heat. Item number one. The most difficult project that I can remember took place in 1970 during July and August, and we were in a basement, and there were rocks on all four sides, and they collected quite a bit of heat, and we went through quite a bit of water during those days. But several of the things that we did to mitigate that was we altered our working hours and we did plan our work so that we were in a minimum amount of sun and direct sunlight exposure so that, in fact, we could last and work the day. In the private sector production is what drives us. We want to produce as much as we can, and if we are fatigued and nauseous and dehydrated, we are not going to be very productive, and so consequently we make the effort to make sure the employees are productive, as well as what Joe Walsh just shared with you about the protection of employees. It's in our best interests for production, as well as the health and welfare of the employees to do that. Another scenario that -- during construction one of the last things we do in the warmest time of the year, July and August in this area, is that we plan our work the day before as to where we are going to be. If, in fact, we are framing walls and putting on siding 1 and installing windows, installing a roof, fascia, cornice, soffit, we try to work in such a way that we minimize our direct exposure to the sunshine, here again to maximize production and to increase safety. And those are just general practices, and I'm not thinking that they are peculiar to us or our construction sites. I think they are consistent with construction sites up and down the valley.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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		I read the documentation, and I have some philosophical differences with the information that I have and that has been presented. One of them is as you indicated earlier we are talking about $1,000 worth of cost to a company, and this is for three-thousandths or one percent of the claims, which to me smacks of a solution looking for a problem. One of the things that has been said before and I will agree with and endorse is that we don't need more regulation. What I think works well, which is what Joe Walsh has indicated, is education, and if, in fact, it's a problem give some incentives. If there's a tremendous amount of claims in one direction, give some incentives to clear that up. Instead of being incentive-driven, we seem to be penalty-driven. I would like to see more incentives. If this really is a problem and we are going to spend $l,000 a year on heat stress, then we should 1 see a reduction in our rate, and one of the things that kind of frustrates me as an individual business owner is that we see all these regulations pile up, all these additional costs, but we never see a reduction in rates. If they are real and we are going to save lives, et cetera, et cetera, then we should have a reduction in rate corresponding to what we are spending. Otherwise, irregardless of the numbers that we try to generate and the arithmetic that we do, it's not a cost benefit. And rules don't necessarily help, and it has been said and I agree that all of the rules we could initiate over the course of a lifetime will not change anything. We have rules in place. The WAC that Joe just cited is very adequate and enforceable. So my comments have to do with I would encourage less regulation, cost-effective regulation, and when we put a regulation in place, whether it's for logging, fisheries or for a librarian, that there should be a cost benefit.	
General - Opposed	John Auvil Auvil Fruit Co.	Heat Stress Rule complicated, unnecessary and costly. L&I's own, data demonstrates a lack of necessity for a rule regulating heat stress; 446 claims out of 1.44 million in ten years – and that includes indoor and outdoor claims. That's three-thousandths of one percent over a ten year period. The Small Business Economic Impact Statement conducted by L&I indicates the cost of compliance for small businesses to be $17.30 per employee per day. This would mean that Auvil Fruit Co. would have an extra expense of $4325.00 per day. For cherry harvest alone it would be over $150,000.00. The heat stress rule is disproportionate rulemaking – focusing on what is essentially a small problem at the expense of losing sight of bigger, more dangerous workplace safety issues. Auvil Fruit Co strives to provide safe workplaces and we already protect workers	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can

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		from heat illness, but this rule goes overboard, it won't do more to protect workers, just cost farmers more. The rule as proposed will have a disproportionately negative impact on small businesses, this is according to L&I's own Small Business Economic Impact Statement. Something this state already has too much of. Please consider that what exists now is enough for HRI, forget the new rule and let's go on to bigger more important safety issues.	cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Stephen M. Serafin Quality Landscapes	My name is Stephen M. Serafin, member of the Washington State Nursery and Landscape Association and partner of Quality Landscapes employing six in Port Hadlock, WA. I was at the hearing in Tumwater on Monday 28 April and decided to send written comments rather than speak. To be blunt with a sharp point, these proposed set of rules should not be adopted for all of the reasons given at that hearing. This governmental shot gun approach to a perceived problem that is less than 1% of claims over the last 10 years is hardly a crisis except in the minds of bureaucrats trying to justify their reason to have a job in State Government. Their talents and the money to fund this baloney would be better spent on enforcing existing rules as related to worker health	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department

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		and safety, particularly those that deal with heat stress rules already on the books. Better yet, reallocate some money to better staff and fund more boots on the ground to help enforce existing rules. This current approach is much like the King County Medical Examiner's Office wanting to raise several hundred thousand dollars by adding another $50 to the cost of a cremation to fund 2 more bodies in their office because some funeral home directors can't follow existing rules on notification and at least 20 bodies per year are not properly examined. In that scenario, King County should go after the offenders and not penalize everybody for incompetence. Likewise, if there are employers who do not protect their employees health and safety, then throw the book at the offenders using existing WACs. The existing state and federal rules are sufficient to protect workers from heat-related illness. The Dept of L&I's own data backs this up. Therefore, these new rules are unnecessary and places undo burdens on businesses. Before any new rules are adopted, several changes need to be made for clarity. As an employer, I need to an easy to understand roadmap. Summary: enforce existing rules.	considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate

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			the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Dale Lawson	I have just become aware that the WA Dept of Labor & Industries is making another, redundant, rule concerning heat stress. I am opposed to duplicate and unnecessary rules. It appears the new rule is only for the purpose of allowing department inspectors to fine employers, even though the workplace may be safe. This is outrageous. I am requesting that the department reconsider the new heat stress rule and inquire as to whether any new rules are needed concerning this issue.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Matt Willard Central Washington Home Builders	On behalf of the 792 member companies of the Central Washington Home Builders Association, we submit the following comments and suggestions for the “Heat Stress” rule as it is proposed. We hope you will seriously consider our recommendation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related

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	Association	To begin with, the proposed rule goes beyond what is necessary. While this draft is somewhat les objectionable than the previous, it is still an unwarranted burden on employers. The effort that has gone into this rule should have been focused on worker education. There have been too few heat stress cases to warrant the rule's additional administrative burden beyond that of worker education. We believe the ***Standards for a Safe Workplace in WAC 296-155-040*** are adequate to address worker safety concerns and are quite clear. *"(1) Each employer shall furnish to each employee a place of employment free from recognized hazards that are likely to cause serious injury or death . . . (2) Every employer shall . . . . adopt and use practices, methods, operations, and processes which are reasonably adequate to render such employment and place of employment safe. Every employer shall do everything reasonably necessary to protect the life and safety of employees. (3) No employer shall require any employee to go or be in any employment or place of employment which is hazardous to the employee. (4) No employer shall fail or neglect: (b) to adopt and use methods and processes reasonable adequate to render the employment and place of employment safe. (c) to do everything reasonable necessary to protect the life and safety of employees. . . (6) No person shall . . . (d) fail or neglect to do everything reasonable necessary to protect the life and safety of employees."* We consider ***040*** to be a clear mandate to the employer. We believe L&I should provide the employer with an acceptable template for his/her workers education on the hazards related to heat stress. With the employer then armed to educate his/her people, and the safe workplace standards *(040)* guiding his/her jobsite practices, the workers are as safe as they should expect to be. This scenario can and should occur without this new rule. We challenge L&I to explain why *this combination of rule (040) and education should not be adequate.* *You can lead a horse to water but you can't make him drink*. You can encourage an employer to be compliant with the law but you can't make them comply. The few non-compliant employers have a choice. They can either come into compliance with *040* or be fined and have their registration suspended. This new heat stress rule doesn't change anything here. It just increases the paperwork burden on the employer at a terrific cost. It is our opinion that both the employer and the employee would benefit from L&I generated educational material. L&I has shown they are capable of creating some very informative materials for a variety of educational purposes. This is where you focus	illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.

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		should be on heat stress. The regulatory fix being proposed at an estimated employer cost of $28 Million is not warranted by the problem you perceive. Please consider our suggestion – we don't need the rule.	
General - Opposed	Renee' Brooks	This letter is to notify the Department of Labor and Industries of our strong opposition to the proposed Heat Stress Rules that are currently undergoing public hearings. Although we have the utmost concern for our members; employees, we know that our members are already doing everything possible to keep their workers safe from heat-stress-related illness. The new rules proposed by L&I are extremely prohibitive, costly and disproportionate to the actual problem. Here are just a few of the reasons why the Home Builds Association of Tri-Cities is opposed to this proposal: • The rule contains a number of "implicit requirements," which more of less require an employer to also be a meteorologist and keep track of radiant heat, humidity, air movement, conductive heat and more. • The rule is unnecessary – L&I's records show just 446 claims out of 1.44 million in ten years – and that includes indoor and outdoor claims. That's three-thousandths of one percent over a ten year period. • The Small Business Economic Impact Statement conducted by L&I indicates the cost of compliance for small business to be $17.30 per employee per day. For a company with 20 employees, this could be more than $80,000 per year. • The heat stress rule is disproportionate rulemaking – focusing on what is essentially a small problem at the expense of losing sight of bigger, more dangerous workplace safety issues. • Just like the ergonomics rules from a few years ago, this is just one more costly, burdensome regulation imposed by overzealous regulators who have no idea what it takes to run a small business. We urge you to re-consider the adoption of this rule and to allow the rules that currently in place to be enforced and be allowed to work. This rule does not actually do anything to further protect workers – it simply places more requirements on the employers and give L&I to opportunity to write more citations.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for

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			small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Joe King Interwest Technology Systems, Inc.	In regard to Labor & Industries proposed rule for Heat Related Illness we would like to provide the following for inclusion with public comments received for the proposed rule. We did attend the public hearing held in Richland on April 30, 2008, but did not provide a comment at that time. We appreciate the Department taking comments on this rule and on the hearings held throughout the state. Following is our written comment: We are opposed to the proposed rule for the following reasons. We are a small business (construction firm) residing in Eastern Washington with an average number of employees of 16. We have been in business for 11 years and perform a fair amount of indoor or outdoor work in the heat. In those years we have had only one incident where an employee was affected by the heat adversely. Our employee did not become ill or miss work due to this incident, there was plenty of water at the work site and appropriate action was taken to provide him with rest and additional fluids. It just happened to be very hot and the work required a fair amount of exertion. The current rules in place for protecting workers from heat related illness have and are performing effectively. Based on the States data over the last 10 years only 446 claims in - 1.44 million were related to heat related illness. There has been no data offered as to how many of the 446 claims could have factors attributed to the employee such as alcohol consumption, lack of proper hydration, lack of physical condition, not using sun screen, etc. Related to the requirement for the proposed rule is the number of states that have a similar rule in place. That number is one. While California may have determined the necessity for a rule of this nature there are many states where the heat, humidity, or altitude provide a far greater opportunity for exposure to heat related illness that either California or Washington. The historical data of heat related illness does not warrant the proposed new rule requirements. We have calculated the estimated costs to our firm should the rule be implemented. When considering augmenting our safety plan, yearly staff training, cost of materials, daily temperature determination, cost for daily set and container cleaning, and field costs our	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule.

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		cost basis would be $ 19.97/ employee/ day. Depending on the number of days exceeding the temperature trigger the costs per year would be between $ 21,I06.00 and $ 35,177.00 per year. This represents a 2% cost increase per year based on revenue. It was discussed at the meeting that there would be a substantial benefit to cost savings for the State should the rule be implemented. However it was also stated that the State does not have a plan for reducing effected employers hourly L&I cost to aid in reducing the increased cost of operation. Based on the Small Business Economic Impact Statement, our cost calculation, and those offered by other businesses there is a large discrepancy between what the SBEIS states the cost impact will be and what small businesses know the cost impact will be. The posture of the SBEIS determines a minimal cost impact to the employer therefore there is no reason for reimbursement through lowering L&I rates. This is a case where increasing regulation will either force the closure of, or further decrease the competitiveness of Washington Businesses. From a practicality, cost, and president view this rule is with out merit and should not be implemented. We respectively request that the proposed rule be withdrawn from consideration. Again we appreciate the Department taking and considering comment on the proposed Heat Related Illness rule.	The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Andrew Spear, Andrew Spear Construction	After careful review and discussion about the upcoming possible implementation of the new sections to WAC 296~62, I submit the following statement against adoption of same: First: 1 find it inexcusable, that at the public hearing held at the Tumwater Comfort Inn, on Monday, April 28,2008 ,out of all of the Labor and Industries representatives present, no one could verify for the record, after several requests any information on the total amount of claims for the previous years for either the total claims paid, or the total number of claimants specifically claiming loss for a heat-related illness. After spending our hard earned and already contributed tax dollars to do a cost analysis and small business impact study, the other side of the equation was left blank. While I can acknowledge your assumption “that exposure to heat-related illness hazards may be slightly more evenly distributed across industries and businesses employing outdoor employees than the Workers' Compensation claim rates by industry would suggest", I do not share that assumption. Therefore, I object to the method by which any of the data was surmised and) believe that the question of whether to adopt this new rule be postponed, if not cancelled	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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		altogether, until a cost/benefit analysis can be completed and show the public what actually has been motivating this rule being initiated. The people sent to represent L & I did not inspire any confidence in L&I's ability to analyze a situation and propose feasible effective rules to avoid any future claims in that area. Had L&I approached this issue with an honest effort, the lack of which makes L&I's. attempt at passing this rule by the public look dishonest. Second: Because OSHA has already implemented safety standards and measures to adequately cover the all of the lower 48 states with regard to heat-related illness, and Washington's current heat-related illness already goes beyond that, I see no reasonable explanation as to why you need to improve it at a cost to the industries that work outside. I respectfully submit this statement in objection to L&I's adoption of the new Heat-Related Illness rule~ scheduled to be adopted on June 4, 2008 and put into effect on July 5, 2008.	
General - Opposed	Robert Lubowicki Home Builders Association of Kitsap County	Please accept this letter as formal comment on the proposed rulemaking on Mandatory Heat Stress Prevention. The Home Builders Association of Kitsap County is a trade association representing almost 600 companies doing business in Kitsap County. Many of these companies will be directly affected by the imposition these rules. With the support and recommendation of the Board of Directors for the Home Builders Association of Kitsap County, I am writing to express our opposition to these rules. The existing laws governing worker safety are more than sufficient to ensure workers have a safe work environment and access to services they need when warranted. Existing laws and rules already require that water be made available and go into detail on how much water must be made available and go into detail on how much water must be provided per employee and even how it should be dispensed. It is always unfortunate when any employee is sick or injured. Employers feel the effect both in concern for that employee and others, but also by the resulting loss of work. There is no reason an employer would intentionally neglect the health and safety of their workers. These rules are a heavy-handed and over reaching layer of regulation in response to a potential, but unsubstantiated, problem. By your own data the frequency of filed claims for heat related incidents over a 9 year period of all workers in Washington State was less than 450 claims total. Further, the selection of a 9 year time span for the data makes us wonder if you used that timeframe because you can't actually show a consistent heat related problem across the years. It seems likely you took your data out of the number of years necessary to reach a total claim activity number that would sound like a problem to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report

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		anyone only marginally engaged. When you know the volume of total claims activity for Labor and Industries over that period, the 450 claims is almost nothing. In fact it equates to about three-thousandths of one percent of all claims during that time. So it is neither statistically or actually significant. According to your own Small Business Economic Impact Statement, the proposed rules will conservatively cost over $17.00 per employee per day to implement and are (again by your own analysis) disproportionately costly for small businesses. To bring that "per day" cost into focus, this rule will cost each affected employer over $4,200 per employee per year. These rules will affect all employers with employees working in the designated environments all year. The implicit and explicit requirements will force the development of training publications, training programs, weather monitoring, and environmental risk factor tracking. All these costs cut into the ability of employers to provide other services, training opportunities, and employee benefits that would have far greater value to their employees. Small businesses are currently having a difficult time in this state -especially those in the home building industry. This rule must not be implemented. Address rule violations of existing rules where warranted. Please do not take an extreme and costly approach to address a concern you already have the necessary enforcement tools and authority to address.	(publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Linsey Rhoten Brent A. Barcot, Jr. Unknown Sandi Meredith Kristine Allaway	The proposed heat stress safety rule is not necessary and should be dropped. Heat stress can easily be monitored and enforced under the general duty rule. The cost to develop and implement the policy exceeds the benefit received by L&I, employers, and employees. The dollars would better be spent on training and education. The number of heat stress related cases in Washington State over the last ten years is minuscule and does not warrant a new rule when an existing rule is already in place. Employers have a moral and legal obligation to provide a safe work place for its employees. Employees also have an ethical obligation to their employer. Drinking water to prevent heat stress is common sense and should not be the employers responsibility. To the best of my knowledge only one other state, California, has adopted a specific rule addressing heat stress. No southern states with much hotter climates find it necessary. We do not need more rules. The proposed rule is not necessary and should be dropped.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs

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			throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Aubrey M. Scheel Arrow Contracting	Foremost, Arrow Contracting Service, Inc. of Spokane, Washington would like to stand formally opposed to the heat related illness rule proposed by the Department of Labor and Industries. We are a small, family-operated construction business with less than a dozen employees and this rule has the potential to have proportionately prohibitive costs for small	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related

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	Service, Inc.	businesses. We believe that not only is this a solution to a problem that does not actually or statistically exist, but that the department already has rules regarding potable water availability and consumption, as well as heat stress training for all employees in place in current regulations. Furthermore, the proposed rule intends to regulate common sense, limit employee responsibility, and would have supervisors become responsible for employee water consumption; none of which are reasonable expectations of employers, or are actions that fall under the mission of the department. Additionally, we believe that while there are industries in which heat stress may be of exceptional concern, i.e. public works, fire safety and wildfire suppression, agriculture; there should not be a blanket rule imposed on all industries, including construction and lumber industries, where current regulations are satisfactory. The proposed rule has raised several questions among our employees and supervisors. For instance, when does an adult employed in the state's many industries become responsible for their own behavior and health on the job? Do the current rules and regulation, specifically WAC codes for employee training and employer responsibilities related to jobsite safety, not appropriately cover the hazards of working outdoors and the potential for heat related illnesses? There is an existing framework to address these issues; can L&I and employers not work within the rules already in place? Our business follows the rules and regulations stipulated by Washington's DOL and our employees are trained accordingly. Therefore, we believe that this is a confounded, poorly written rule crafted to limit statistically negligible heat stress illnesses and deaths in the state. The rule will not meet the aims of the department, as heat stress hazards cannot be eliminated for employees performing outdoor work; nor will our employees be able to minimize job hazards related to heat related illness any more with the rule in place. Again, we stand opposed to the adoption of the proposed heat stress rule by Washington's DOL as it is wholly unnecessary and inherently cost prohibitive for small businesses.	illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Jennifer Carney Pavement Surface Control	The proposed heat stress safety rule is not necessary and should be dropped. Heat stress can easily be monitored and enforced under the general duty rule. The cost to develop and implement the policy exceeds the benefit received by L&I, employers, and employees. The dollars would better be spent on training and education. The number of heat stress related cases in Washington State over the last ten years is minuscule and does not warrant a new rule when an existing rule is already in place. Employers have a moral and legal obligation to provide a safe work place for its employees. Employees also have an ethical obligation to their employer. Drinking water to prevent heat stress is common sense and should not be the employer's responsibility. Some of the responsibility needs to be placed with the employee. To the best of my	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be

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			http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Dorothy J. McDaniel Pavement Surface Control	The proposed heat stress safety rule is not necessary and should be dropped. Heat stress can easily be monitored and enforced under the general duty rule. The cost to develop and implement the policy exceeds the benefit received by L&I, employers, and employees. The dollars would better be spent on training and education. The number of heat stress related cases (446) in Washington state over the last ten years is minuscule and does not warrant a new rule when an existing rule is already in place. Employers have a moral and legal obligation to provide a safe work place for its employees. Employees also have an ethical obligation to their employer. Drinking water and seeking shade to prevent heat stress is common sense and should not be the employer's responsibility. To the best of my knowledge only one other state, California, has adopted a specific rule addressing heat stress. No southern states with much hotter climates find it necessary. We do not need more rules. The proposed rule is not necessary and should be dropped.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness.

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			The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Debbie Malone Malone's Landscape & Nursery	I am writing in response to the Heat Stress Rule being considered by L&I. We strongly oppose this added measure as an unnecessary rule given the amount of claims L&I has had reported do to heat and our climate. Our climate is moderate and rarely reaches high temperatures and when we do it is for relatively short periods of time. There are already rules in place that safe guard workers with regard to water, rest, and first aid. Washington is an expensive and difficult place to do business and adding unnecessary rules that place more demands on employers and added expense will not help. Other states with hot climates such as Arizona, Oklahoma, and Texas don’t have these rules so how can Washington justify this. Focus on the areas that have real problems, this is not one of them.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards

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General - Opposed	Andrew Spear Andrew Spear Construction	After careful review and discussion about the upcoming possible implementation of the new sections to WAC 296-62, I submit the following statement against adoption of same: First: I find it inexcusable, that at the public hearing held at the Tumwater Comfort Inn, on Monday, April 28, 2008 , out of all of the Labor and Industries representatives present, no one could verify for the record, after several requests, any information on the total amount of claims for the previous years for either the total claims paid, or the total number of claimants specifically claiming loss for a heat-related illness. After spending our hard earned and already contributed tax dollars to do a cost analysis and small business impact study, the other side of the equation was left blank. While I can acknowledge your assumption "that exposure to heat-related illness hazards may be slightly more evenly distributed across industries and businesses employing outdoor employees than the Workers' Compensation claim rates by industry would suggest.", I do not share that assumption. Therefore, I object to the method by which any of the data was surmised and I believe that the question of whether to adopt this new rule be postponed, if not cancelled altogether, until a cost/benefit analysis can be completed and show the public what actually has been motivating this rule being initiated. The people sent to represent L & I did not inspire any confidence in L & I's ability to analyze a situation and propose feasible, effective rules to avoid any future claims in that area. Had L & I approached this issue with an honest effort, the lack of which makes L & I's attempt at passing this rule by the public look dishonest Second: Because OSHA has already implemented safety standards and measures to adequately cover the all of the lower 48 states with regard to heat-related illness, and Washington's current heat-related illness already goes beyond that, I see no reasonable explanation as to why you need to improve it at a cost to the industries that work outside. I respectfully submit this statement in objection to L & I's adoption of the new Heat-Related Illness rule, scheduled to be adopted on June 4, 2008 and put into effect on July 5, 2008.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water.

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General – Opposed	Truman Jepson	Please register my opposition to the proposed L & I Heat Stress Rule. I hope you will oppose this rule as it is complicated, unnecessary and costly to small and large business's alike. What happened to common sense? With such a small number of incidents in the past 12 years, why is the Legislature wanting to impose this bureaucratic legislation on the people of the great state of Washington?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Tracey Bjerke Pyramid Homes, Inc	I would like to stress my company's strong opposition to this bill. It would cause incredible hardship on our company. We stress safety of every kind on a daily basis. Heat conditions are as important as the freezing weather. It is in our program to monitor and be prepared for all situations. The estimated cost per employee by L&I, to be in compliance with this new law, would be over $40,000 per year. That is an extreme cost for one regulation. We do not live in a desert area where there may be more concern for such tactics. Please reconsider this law and the total effects that it will have on all builders, and sub contractors.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training

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			requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General – Opposed	Mark Alkire	I am writing to you regarding the Heat Stress rule proposal that L&I plans to adopt on June 4th and will become effective July 5th, 2008. I am directly opposed to this new rule. I believe it to be complicated, unnecessary, costly, and ridiculous. How many heat stress related L&I claims have Washington state workers had in the past 10 years? According to my information, it is 446 out of 1.44 million claims! That is three-thousandths (3/1000ths) of one percent over a ten year period. Also, L&I's own Small Business Economic Impact Statement indicates the cost of compliance for small business owners will be $17.30 per employee per day. This is another unjust cost and burden and will have a disproportionately negative impact on small business owners in Washington, just as your Small Business Economic Impact Statement indicates. It is my opinion that L&I should be enforcing their current rules (which are very adequate in my opinion) and not adopting new ones. I also believe that the implementation of this rule will potentially lead to more frequent and hazardous workplace injuries to workers due to compliance to said new rule. It is my hope that common sense will prevail and that this frivolous and unnecessary rule will not be adopted. If it ultimately is, what is next? A cool stress rule? A noise stress rule? A fragrance stress rule? A color stress rule? A keyboard stress rule? I hope you can see my point of view. Again, I believe L&I has better things to concentrate and work on that this ridiculous proposed rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153

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General – Opposed	Brenda L. Scott JB Scott Construction, Inc.	I employ 7 men with families in my small construction business. I may have to let some of them go in order to afford the expense of implementing this heat stress regulation. According to L&I's economic impact statement, I would spend $605.50 per week on this program ($17.30 x 7 employees x 5 days a week). This equates to 1 $15.00 per hour employee. The true and unfortunate cost of this unnecessary regulation is the burden it will place on these families. In this tough economic environment we should be doing all we can to support lower wage earning families, and the small businesses that employ them. This is probably most evident in the construction industry. With the tightening credit markets and continuing fall in the real estate market, the construction industry is seeing a significant impact. Add to that the difficulty for many small construction companies to find and afford general liability insurance. With these factors pressing down upon them, many small businesses have been forced to lay off their employees and close. The reality is that this rule is just one more nail in the coffin for small business. It will be costly to implement, it will be burdensome and unrealistic to enforce, and it is unnecessary as current laws regarding workplace health and safety already exist to address these concerns. I urge you to please take a common sense approach, and reexamine the validity of this proposed rule. If this rule should be adopted, it will put honest working families in the welfare line. From an employer's perspective, I am sorry to say that is the bottom line.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Valerie Robbins	I am a business owner and I have been reading the proposed Heat Stress Rule. I feel that it is unfair to make business owners carry the burden of making sure employees have enough water, and the right clothing. Where is the employee responsible for their own	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		health. Compliance with this rule could cause stress the poor employer who has to provide for basic needs of there employees. L&I estimates the cost to comply with this new rule could be as much as $80,000 per year. (that's almost our entire profit for the year) My employees aren't stupid they know when they need water and shade, I'm not out there with a whip making my employees work no matter what the conditions are. They have their breaks and when it is hot the employees choose to start work earlier in the day so they can get off earlier and avoid the heat of the afternoon as much as possible. This is ridiculous! I completely oppose this idea, a business owner should not have to "baby sit" and that's what you are asking us to do. Stop the nonsense!	The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Neal Hartlerode	I am writing to you to protest the bad idea of a heat stress rule. It rarely is a problem in this state. I have been in bad states such as Missouri where it would make more sense, there has never been more than .003% of claims due to heat stress in the last ten years! At an average cost of $17.30 per day per employee the cost to builders work be staggering. That would be $899.60 per employee per year. This is a burden that is unacceptable. The rule as proposed will have a disproportionately negative impact on small businesses, according to L&I's own Small Business Economic Impact Statement.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report

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General - Opposed	Douglas M. Cetina D. M. Cetina Painting Inc	My name is Douglas Cetina and I own D. M. Cetina Painting Inc. out of Redmond, WA. I have owned my business since 1980 and have employed as many as 65 painters at one time. This rule will have a profound impact on my business as well as the construction industry as a whole. I started painting 40 years ago and up until about five years ago still painted out in the field. I have sprayed exteriors with my regular clothes on, coveralls, a light coat to cover my arms, a spray hood and respirator in 95 degree weather going up and down ladders and carrying ladders. As long as common sense is used there is no problem. With our current system of morning and afternoon breaks along with lunch. That gives ample time to rest and hydrate. In my company when we know it is going to be a hot day, spraying is only done in the mornings and we trim in the afternoon. We also work on the side that get the most sun in the morning and work on the shaded side in the afternoon when the heat is the highest. As for interior painting it has never been a problem in Western Washington as it just doesn't get that hot here. I beg you to help defeat this regulation. We constantly hear about affordable housing, as if something like that exists. With all of the regulation that we have to live with there is no possible way we will ever again have affordable housing. There are good regulations out there to protect employers that are all about themselves, which we need, but this regulation is one that we do not.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General -	Jason Clements South Bay	I currently operate a small excavating company that employees about 50 employees in the Thurston County area and have some grave concerns about the new heat stress rule that	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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Opposed	Excavating, Inc.	L&I is thinking about implementing. According to the figures that I have read it appears that this new rule (these figures are according to the L&I Small Business Economic Impact statement) will cost small businesses like mine in excess of $80,000.00 per year to comply with the rule. The soaring cost of fuel and higher insurance rates have had a detrimental effect on our business and another rule that would cost us an additional 80k per year could very well be the straw that broke the camel's back. I would appreciate any opposition you could put forth to this before it comes to be law. Please speak up for your constituents and oppose this law so we can continue to operate and provide viable employment for many in the Thurston county area.	The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Robert Hawkins Hawkins Heating and Sheet Metal	This letter is to express my concerns with the new Heat Stress rule proposed to become effective on July 5, 2008. I feel this latest approach from L&I is "simply solution in search of a problem, with only .00311% of all claims statewide relating to heat stress. In fact, last year's "emergency" heat stress rule generated 988 citations, totaling $10,970 in penalties, during a 4 month period. All citations were for "paperwork" violations. With the adoption of a permanent rule, L&I will be able to continue this trend year round." "The Small Business Economic Impact Statement conducted by the Department clearly indicates that the proposed heat stress rule will be very costly, especially to small business. For a company with 20 employees, L&I estimates the cost to comply with this new rule could be as much as $80,000 per year. Compliance costs for small business will be nearly five times the compliance costs for large companies." (BIAW circulation March 2008) As a business owner with less than ten employees, I am very concerned with the amount of effort and money it will take to comply with these new standards. Being a lifetime Washington resident, I am confused by the need for such rules when the temperatures here rarely reach 80 degrees. Please reconsider adopting the Heat Stress Rule. I understand the need for common	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at

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		sense in unusually warm temperatures, but I feel that your time and money and mine would be better used elsewhere.	http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Rick Crosby Carefree Homes, Inc.	Why 30 years in business and 40 years in the building industry I have never had or seen a heat stress claim. We are having a hard enough time making a living right now without L&I passing new legislation just to make more work for themselves. If you do this more L&I employees will be hired and rates will go up. We already have some of the highest rates in the nation. If you want to do more for construction employees why don't you spend your time going after unregistered contractors who hire people and put them on jobs with no L&I insurance? That cost all of us.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Dave Muratore	I would like to express my concern regarding the new Heat Stress Rule proposed by L & I. You should know that I and every honest worker strongly oppose it for several reasons, but specifically because it will cost the small business employer an un-godly amount of money every year for something that is not even an issue that needs dealing with. With only .00311% of all L&I claims relating to heat stress i believe to should seriously reconsider enforcing this new rule which will cost small companies such as my employer up to $80,000 a year - an amount of money that will be taken out of each and every hard working man's paycheck!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department

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			considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General – Opposed	Wayne Keffer	It concerns me If only .0031% claims can be related to heat stress is heat stress really an issue. The time and effort used to create and enforce rules that are of no real apparent gain should be used for more important safety issues such as non legal un-licensed construction companies operating without licenses and therefore not paying for L&I or providing protection for employees. This rule will be enforced only on companies that are	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives.

WAC Section	Commenter	Comment	DOSH Response
		legitimate and will make it harder for them to compete while providing workers safe living wages.	Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Roots Incorporated	As a contractor, employer, father, and owner of a small business, I work extremely hard to ensure that our company complies with all federal and state safety standards. It is very important to us that our employees are kept safe and healthy. I am extremely concerned about L&I adding excessive and expensive new heat stress mandates that will ultimately financially penalize those of us who are already working hard to comply with the present guidelines and who care deeply about the health and safety of our employees. It seems to me that you are trying to legislate common sense and compassion. Give us who have those qualities a break and go after the illegal “contractors” we compete with who are not in compliance and not even in your system. So many of the L&I rules make sense, but this one is over the top.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Becky Kelleran Showplace Design &	This new law could crush small businesses…they do not have that kind of profit to withstand this type of legislation. Please. Please use common sense when making laws.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
	Remodeling		The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Debbie McCauley	The Small Business Economic Impact Statement conducted by the Department clearly indicates that the proposed heat stress rule will be very costly, especially to small businesses. For a company with 20 employees, L&I estimates the cost to comply with this new rule could be as much as $80,000 per year. Compliance costs for small businesses will be nearly five times the compliance costs for large companies. I usually vote for the Democrat and for years have done so but... I started this business because I couldn't exist on my Kelso School District wages as a classified and now I guess I won't be able to afford this either. Why can't we just use our heads, work safe and get our jobs done.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Denise Suess Risk Management Bellingham School District	I would like to comment on the new heat stress rule being proposed for Washington state: Whatcom County and other parts of western Washington do not have summer temperatures that typically reach levels where heat-related illness would occur and incidents of heat stroke are unheard of. It seems like a bit of common sense instead of a regulated law would suffice in areas where temperatures rarely reach above 85 degrees.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that employees in Western Washington are less frequently exposed to heat-related illness hazards; however, the severity of the illness when it occurs does not change. In addition, employees in Western Washington are less likely to be acclimatized to heat and, as a result may be less tolerant of heat exposure when it occurs which can increase their risk for heat-related illness.
General -	Jeff Mallett Mallett Sheet	I am vehemently opposed to another intrusive and unnecessary regulation that will accomplish nothing. The Heat Stress regulation to be imposed is nothing short of an	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed	Metal & Roofing	attempt to raise revenue by a government agency already out of control. Please consider rejecting this regulation.	RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice.
General - Opposed	Kim Yuska Alvord-Richardson Const. Co., Inc.	I am a small business owner of 20 people in the construction industry. We work mainly in 3 Counties, Whatcom, Skagit, and San Juan. I am hardly thinking this "Rule" would pertain to my Company as we are in an area with mild conditions typically. With L&I estimating the cost to comply with this new rule being $80,000.00, we might as well close up shop.....That figure is similar to our Annual Profit..... I am urging you to take a look at this and the area of compliance.....This rule is totally absurd. My company has been in business since 1965 and not once have we ever had a claim based on Heat Stress.... It just doesn't get that hot around here. Also, I would like to think we hire intelligent people that know how to dress, eat, and drink plenty of water, under warmer conditions. We are totally opposed to this "Heat Stress Rule" !	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.
General - Opposed	Shawn Macfarlane SummerPlace Homes Inc.	Please reconsider the merit of your unnecessary heat stress rule scheduled for adoption July 4th 2008. As a business owner, and an employer, I strongly oppose this new rule. Please respond and explain to me the wisdom of this rule when less than a fraction of one percent of all claims statewide can be attributed to heat stress.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders).

WAC Section	Commenter	Comment	DOSH Response
			In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Kyle LaPierre Enterprises	I have personally talked with my sub-contractors about this new Heat Stress regulation and they all agree that it will cost a considerable amount of money for them to comply and not one of them or an employee have ever had a heat related claim. This is another cost that will get added on to my job and the consumer will end up paying the bill. Can you please consider the fact that this is not a problem (00311% of all claims statewide relating to heat stress).	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General -	Greg Szymanski	Last week the Department of Labor & Industries released another Heat Stress rule proposal. The rule, which L&I plans to adopt on June 4th, is scheduled to become	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed	Geonerco Management, Inc.	effective on July 5th, 2008. Ms. Schurke, the heat stress rule seems to be a solution in search of a problem. Only .00311% of all claims statewide related to heat stress. The Small Business Economic Impact Statement conducted by your Department indicates that the proposed heat stress rule will be very costly, especially to small businesses. For a company with 20 employees, L&I estimates the cost to comply with the new rule could be as much as $80,000 per year. Compliance costs for small businesses will be nearly five times the compliance costs for large companies. I am opposed to the heat stress rule.	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov. The Department's has evaluated this comment. The calculations for the Small Business Economic Impact Statement (SBEIS) and preliminary cost/benefit analysis do not reflect a cost of $17.30 per employee. In a structured estimate that looks at potential costs the Department found costs range from $0.22 to $00.81 per employee per day for the 153 day period covered by the rule. The SBEIS estimates that costs for implementing the proposed Information and Training requirements may cost small businesses more than large businesses. The Department plans to mitigate this cost by providing training materials and courses for small business. The Department has reviewed the Cost-Benefit Analysis considering the changes made to the proposed rule. As a result, the Department has determined the changes to the rule reduce costs by comparison to the costs evaluated at the time of proposal.

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General - Opposed	Will Stakelin Olympia Master Builders	I'm the Government Affairs Director for the Olympia Master Builders, which represents almost 1,100 hardworking members in Thurston, Mason, Lewis, Grays Harbor and Pacific Counties. I'm here to make sure the collective voice of our members and the families they are working to support are heard by making it clear that we're opposed to the proposed heat stress rule. Employers already understand the environmental risk factors their employees work under day in and day out and are committed to complying with current workplace requirements and provisions to keep their employees safe from heat-related illnesses. This is apparent by the fact that there's only been 446 claims out of 1.44 million. That is three one-hundredths of one percent over the last decade. I'm not aware of any other government agency or jurisdiction that has pursued such an unnecessary rule as L&I is doing here based upon such a minuscule percentage of claims or lack of compelling statistical data. In this particular situation there is no compelling date to substantiate such an onerous rule. The Small Business Economic Statement conducted by L&I showing the cost of quote-unquote compliance for small businesses is compelling data to show that the rule will negatively impact small businesses, while doing nothing for the workers they employ. If you would like to move forward and find a solution, pursue something like the educational outreach program, but I'm here to tell you that our membership in the five-county area is united in our opposition to the proposed heat stress rule and the costly unnecessary detriment it will have on our business owners. Thank you for the opportunity to comment.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Bradley Wilson B.T. Wilson Construction	This letter serves as written notice that I oppose the proposed rule to protect workers in hot weather. I oppose the proposed rule because it is unnecessary and redundant rule making. Current laws for employers in construction and agriculture already require first-aid training, adequate water supplies for employees and mandatory rest periods for workers. L&I needs to enforce their current rules and take action on employers found to be out of compliance – not adopt new rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Existing requirements for providing water apply regardless of whether a heat-related illness hazard is present. The requirements of WAC 296-62-095 provide specifications as to how much water is needed when employees are working in environments that meet or exceed the temperature action levels and the need to consume more water. Existing first-aid requirements do not specifically address the actions to take when employees receive first-aid injuries or illnesses (this includes heat-related illness). The requirements of WAC 296-62-095 provide clarification on the steps that need to be

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			taken when employees show signs of heat-related illness. The language in WAC 296-62-095 sets forth the point at which employers are expected to address heat-related illness in their Accident Prevention Program (APP). In addition, the requirements of WAC 296-62-09560 communicate the expectations for providing training to employees and supervisors. The safe place standards (general duty clause) are open to interpretation and do not address any specific hazard. This rule does not give employers any guidance as to what they need to do to comply with this rule in any given situation. The safe place standards are intended to be used when there are no rules that specifically address a hazard employees are exposed to and may not be used to address general (non-serious) hazards. DOSH enforcement practice is to use the most specific rule possible when issuing a citation to an employer. This practice makes it easier for the employer to abate the hazard. OSHA does not have a specific rule addressing heat-related illness. OSHA relies on their general duty clause for enforcement activities.
General - Opposed	Sharon Wendling A.A. Anderson Company	I'm Sharon Wendling, and I'm from A.A. Anderson Company, heating and electrical here in town. Most of what I wanted to say has been said, but I will reiterate Bill Quehrn's point. Everyone here has taken time and money because they're interested in protecting their employees and their businesses. I believe your time and money could be better spent finding the people who are not here, are not licensed, are not caring for their employees. We have had inspectors on our job sites carding our men several times. They know them by name. They know they have cards. And yet our guys have pointed out to them several times that there are unlicensed, unmarked trucks on a job across the street and there is nothing done. Now I would like to know who is going to protect those employees? The other part about education is fine, because I don't think there is anyone who is an adult who has not heard that it's best to drink eight glass of water a day. It's on the T.V., in magazines, on the radio. I believe most of the employees on the job sites are adults. They know when they are thirsty. They know when it's too warm. I don't believe we need to continually babysit. I think you need to trust us to have the best interests of our employees at heart.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department acknowledges that unregistered contractors are a threat to both consumers and legitimate contractors. DOSH inspectors report unregistered contractors when they encounter them during inspections. In addition, the Department has staff assigned specifically to identify unregistered contractors. The Department encourages the public to report unregistered or fraudulent contractors by calling 1-888-811-5974.
General - Opposed	Bruce Chandler House of Representatives – 15th District	I'm a State Legislator, a member of the Washington State House, and I represent the 15th District, which is just on the east side of the Yakima River here, just across the river, and extends to Oregon, the Columbia River border with Oregon, and from the City of Grandview to the city of Washougal in Clark County, so I represent Klickitat, Skamania,	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of*

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		the east end of Clark County and the majority of Yakima County. I'm also an orchardist and fruit grower down near Granger, and I have worked in the fruit business all my life, all my adult life. I was fascinated by your presentation on the rule. Some of the things seem to be somewhat different than what I read, but I think basically I anticipate and that you have heard and will continue to hear about many of the details in this proposed rule. I think in general it's important to look at several things. One is what is the real scope of the problem and the issue? We are all interested in creating a safe and productive workplace, and I think that's been demonstrated even before the consideration of the emergency rule. There are organizations such as the Washington Growers' League, the Washington Farm Bureau and others who have actually adopted practices and done training and been pro-active for a decade before that rule was ever considered I do realize that this was precipitated by an incident, and it was a very tragic one in, but the reality is that that death was the result of a violation of a rule that already existed at that time. This proposed rule wouldn't have changed that and won't change that. There have been several other cases, but my understanding from the Department is that those also violated existing rules. There have been since at least my information is that since the implementation of the emergency rule in the last two years there have been almost 1,000 citations issued, all of them for technical paperwork violations, and the relevance of that I would like to get to in a minute. I think at the end of the day we need to consider does this really make a safer workplace, and I think that that question is not answered in the proposed rule. The difference that I see between the proposed rule the permanent rule and the emergency rule is the chart and the triggers, which I think pose a significant challenge. It's a burden to employers, but it's a significant challenge to the Department as well. The reason I say that is because I'm about miles from where we are today, and the temperature on my farm is typically not always but typically 5 to 8 degrees different, as is the wind and humidity, from the Yakima Air Terminal, which is the local weather reporting	*L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

WAC Section	Commenter	Comment	DOSH Response
		station. The Toppenish area on the Yakima Indian Reservation, which is five minutes away from my farm, can be to degrees different than my location. I believe that when I read the proposed rule that -- a reasonable employer would find it confusing to determine whether that chart had to be followed based upon a reasonable weather forecast out of Pendleton, which is where we get it, or whether it would be based on the conditions as they exist at the workplace. I think also that this permanent rule - and it was, I think, referred to incidently in the presentation, the disproportionate impact on small business. This is a very highly regressive rule, and if you're going to adjust for that based upon making enforcement more punitive on one class of employers versus another, I have a hard time understanding how that builds credibility between the Department, quite honestly, between the Department and the business community. I'm very interested to hear the rest of the testimony, but I do want to say that I know that the Department shares the concern of the business community, of the employee community, and of the legislature, quite honestly, in wanting to promote the safest possible work environment for every employee, and I think that this rule fails in that. It may succeed in providing an abundance of opportunities for new causes of action, but it does not result in a workplace that is safer than what exists under existing rules. And I would be very interested to know if the Governor has been consulted or has expressed any position or concern on this, given the economic environment we are in, and given what she has expressed to me personally about her concern about small business and about the growth of the economy in providing more jobs. I would be very interested to know if she has expressed a view on this. I think that it would have been, quite honestly, more prudent to simply adopt the emergency rule than it is to create this new one. I have been in the House for ten years, and I know that -- and I have been on the Commerce and Labor Committee the entire time -- and through a succession of leadership in the Department there has been a consistent effort over the years, I think a real interest, in trying to build a constructive and collaborative relationship with both employers and employees, and I think that this in practice could end up being a real step backwards in the development of those relationships. There's a provision in the rule that refers to the responsibility of the employee, but there's	

WAC Section	Commenter	Comment	DOSH Response
		no enforcement of that, and we all know that ultimately whatever happens on the work site -- that the liability is on the employer, not on the employee. I think if this becomes -- and I'm going to be blunt -- but if this becomes a situation in which enforcement becomes a gotcha situation because you are one degree over what you thought you were or because of the ambiguities that are imbedded in this proposed rule, I think that that would not produce a result that either the Department, the employers or employees or the legislature really wants to reach in this. So I really would recommend that the Department reconsider this rule. I know the Director in her press release cited thousands of illnesses resulting from this. I have to be honest with you, but I have not been able to receive any evidence whatsoever that that statement is accurate. If you have that evidence, I would very gladly -- I would be very grateful to receive it. I think that's information that right now has not been shared with the legislature and it should be.	
General - Opposed	Don Jordan Don Jordan Energy Systems Inc.	My name is Don Jordan I am the president of Don Jordan Energy Systems Inc. We are a general contractor licensed in both Washington and Oregon and provide multiple specialty services for the construction industry and other general contractors. I am also a member of the Washington State Building Code Council. Thank you to you and the staff for holding the public hearing on heat related illness in Yakima on April 30th, 2008 giving us the chance to comment. First, I am concerned with the financial calculations the Department of Labor& Industries is using. If it is possible for my company to train our staff and employee's (approx. 23 total) in one hour, we will exceed your projected cost of $923.00. I believe this is true for most employers having questioned many in my area. Second, we already have safety rules in place to help protect our employee's so why does another layer of rules and regulations need to be added. Where are the incident numbers that justify this new rule? If employers don't follow the existing rule penalize them on an individual basis and not all the other employers in the state. Education not citations seems to be the right solution. Third, has L&I considered the impact that this new rule could have on emergency personnel i.e.; under staffed rural fire fighters in full turn outs at the scene of an auto accident or house fire with limited back up for relief. These people put their lives on the line on each response then we fine them for not being able to comply with your new	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report

WAC Section	Commenter	Comment	DOSH Response
		regulations. Finally, I do believe that we need to keep all employees of the state (public and private) safe. Without good safe working conditions our company can not employ quality workers which are the key to our productivity and success. Many of my employees have reviewed the new rules and regulations and are opposed to their implementation. Please let the record show I am not supporting the new rule change and ask that the Dept. of Labor and Industries reconsider its position.	(publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Karen McClennen Olympia Master Builders	On behalf of the Olympia Master Builders (OMB), I want to go on record adamantly opposing the proposed Heat Stress Rule. OMB represents over 1000 hardworking members in Thurston, Mason, Lewis, Grays Harbor and Pacific Counties. OMB is dedicated to ensuring the collective voice of our members and the families they are working hard to support is heard by conveying their message to government. Their message on the proposed rule has been received loud and clear – oppose the unnecessary and costly Heat Stress Rule. Employers already understand the environmental risk factors their employees work under day in and day out and are committed to complying with current workplace requirements and provisions to keep their employees safe from heat related illnesses. This is apparent by the fact that there have only been 446 claims out of 1.44 million – that is three-thousands of one percent – over the last decade! OMB is not aware of any other government agency or jurisdiction that has pursued such an unnecessary rule based on such a minuscule percentage of claims and lack of compelling statistical data. There is no legitimate compelling data to substantiate such an onerous rule. Furthermore, the Small Business Economic Statement conducted by L&I showing the cost of "compliance" for small businesses is compelling data showing this rule will negatively impact small businesses while doing absolutely nothing for the workers they employ. OMB respectfully requests L&I abandon the Heat Stress Rule and put the costly time and effort into a fair and rational approach utilizing educational outreach programs.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Mike Ellis Apollo, Inc.	We went to the public hearing. Only 446 claims in the past 10 years. Are you kidding? Why are we spending time and money on this? What industry did these claims come from? I would guess agriculture and not construction or general industry. How many	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		claims has the state L&I work force had in the last 10 years? Maybe we need to focus on that.	Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Jeff Mallett Mallett Sheet Metal & Roofing	After reviewing the latest heat stress requirements I have found them to be nearly impossible to comply with and unnecessary. With less than 1% of claims due to heat stress this appears to be yet another attempt by L&I to up restrictions and gather revenue. Since contractors have virtually no say as our rates or rules imposed upon us I feel that your contempt for us is showing again.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice.
General - Opposed	Bonnie Anderson, Anderson Electric	I am sorry, but as a small business owner, I take good care of my employees. I cannot afford one more rule that burdens me unfairly. I cover my employees with health insurance, paid vacations, and try and do what I can. However, burdening us with heat stress rules that make my employees go up and down ladders every hour, possibly slipping in muddy jobsite conditions to do so—make me wonder what you are thinking about. Why is Washington State considering such a law when California is the only other state to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to

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		have such a stringent heat stress regulatory law? I don't get it- our construction industry is suffering enough!	the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Don C. Templeton	The proposed heat stress rule is not a rule I feel is necessary. I believe that heat stress can be monitored and enforced by the Department by using the general duty rule. As employers, we feel we already have a moral and legal obligation to provide a safe work place that includes the availability of drinkable water. Water is already present on all of our work vehicles and is made accessible to the employees. We also instruct our employees to bring water to the work site. Heat related claims over the last 10 years have been 446 out of 1.4 million and this is both indoor and outdoor claims. It appears to me that the industry is already doing an excellent job. The laws that have been in effect for years appear to be working. L&I should focus on enforcing the current rules and not adopting a new rule The proposed rule is not necessary and should be dropped.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at

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General - Opposed	Jerry Bonagofsky Washington Contract Loggers Association	My name is Jerry Bonagofsky and I am the CEO of the Washington Contract Loggers Association based in Olympia. WCLA represents over 1000 logging companies. WCLA is opposed to the proposed heat stress rule. WCLA feels that a regulation on heat stress is unnecessary, paperwork much too burdensome and implementation is much too costly. Our members do their very best to protect their employees. They do so because they care about their well-being, not because a regulation requires them to do so. By L&I's own admission, the frequency of heat related illness is only about three-thousands of 1 percent of all worker's comp claims filed in the past decade. With a frequency that low, new rules are not warranted. L & I should address this issue with education. The WCLA, has for many years, provided heat stress education through our monthly magazine articles and first aid training. L & I could take a similar approach and each year include heat stress information in their employer news and small business publications. If provided by L&I, nearly all companies would voluntarily pass on the information. Those that would choose not to, would be the same companies who would also disregard a new regulation. I just feel an educational approach is must better than a burdensome regulation that will not make our job sites any safer. We don't need a new rule to tell us how to deal with working on a hot day. Loggers have been doing it for about 150 years in Washington State.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General – Opposed	Susan Day, SLD Companies, Inc.	I am a very small residential general contractor in Eastern Washington, have no employees and sub all work. I believe and have experienced heat/cold conditions related to the 'proposed heat stress rule' and conclude that the proposal is absolutely ridiculous for the construction and agriculture businesses on this side of the state and possibly the other side. Reasons: 1) We are the coldest/hottest part of our glorious state. We have and always will 'take care' of anyone and anywhere that we have subs/employees working for us in their health and safety; we do not need to be monitored at the expense of taxpayers! 2) We will never take advantage of another human being's welfare. After all, without their help we would not be able to perform our contracts/or seasonal labor! 3) with a 0.3 non-	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to

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		compliance of the so called 'heat stress rule', it is not prudent for tax payers to support this rule as 99+% are already in compliance! What is the problem here? Politics? State empowerment? Put us out of business and keep L&I employees employed? We all need to survive in small business...for the small make the State go around and keep a growth/income status alive. Please reconsider heat stress rules!	the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Don Carlson Cougar Creek Timber Frame LLC	I am writing to express my deep concern about the Dept of L&I implementing this rule. The cost in time and money will be huge. I don't even have employees that would be affected by this but can see the cost of every house I design and sell the package of material for going up because of the added burden on every phase of the product. Please pass on the message that this is a bad rule that will not help the industry and eventually the potential homeowners. It will drive up the cost, cause greater time on the job and not really help the workers. Tell these people to get out on the real world and find ways to make housing more affordable. Good contractors and supervisors can be trusted to monitor the situation and take good care of their workers. Three thousands of one percent! Ridiculous!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at

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General - Opposed	Cheryl Duke	I am an owner of a small business in the construction industry and find your pursuit on implementing new heat stress laws in this state very frustrating. Most employers in our state view their employees as an important assets and already provide water and advise them to take reasonable breaks during very hot days. Your rules are not reasonable and could lead many companies to reduce the number of their employees to cover the pay due to lost production. If L & I has any actual statistics that can explain why this rule is necessary please send them to me. I do not want to read opinions from the health industry or other L& I Staff, just actual cases reported in this state for the past 5 years. Give employers a break, they want and do protect their employees now. Your rule just creates a more skeptical view of what type of empire L & I is trying to build.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Mike Kinnaman Designers Northwest, Inc.	I am writing this email to voice my opposition to the implementation of the new up coming Heat Stress Rule. In the 35 years in I have been involved in the construction industry, I have only seen one incident related to heat stress and that was in the middle August in the state of Florida. We live in the State of Washington on of the most temperate climates in the United States. This rule is just wrong, with only 446 heat related claims in 10 years, where's the need for this rule. The construction industry is struggling as it is with out forcing another ridiculous rule on us with a disproportionate finical impact on small business. What's next, implementation of a Cold Rule to force employers to ensure their workers are wearing long underwear? Personally I see this rule as nothing more then a	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to

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		means for the Department of Labor and Industries to generate revenue. It would be far more beneficial to educate not penalize.	the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General – Opposed	Tony Bloom	I'm writing you in response to an email that I received about new rules for heat stress proposed by L&I. As a small business owner I take pride in the work my employees and I do. We are in the construction business and work with the elements that mother nature offers to us in Western Washington. Rain, snow, ice, wind, humidity and heat are a few that come to mind. I take necessary steps to make sure that all of my employees are safe and aware of all the hazards that may affect them on a day to day basis. Rules implemented by L&I are supposed to protect workers. Sometimes I think the opposite is true. Standards that are redundant for my job must be practiced or I face monetary penalty. The standards are costly themselves. So to compensate for the offset layoffs happen often and raises for the workers are rare. I raise prices for my services too. My point is that I legally have to abide by your rules and I pass this on through the business, often times financially hurting workers and those that I do business with. I think that the rules that are already in place are more then effective enough to keep workers safe and L&I to make monetary gains. I can't help but to think that the one who will benefit the most by adding more rules will be L&I themselves. The day that L&I shows up to my job and tell me to change some of my practices and not leave me with a citation will be the day I think L&I is trying to help workers and not their own pocket book.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.180 (8) stipulates that all penalties recovered by DOSH citations are deposited into the Supplemental Pension Fund. The DOSH program does not receive any of the money that employers pay as a result of a citation and notice.

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General - Opposed	Kimberly Kean Gene Johnson Plumbing & Heating, Inc	I just wanted to write to voice my opposition to the heat stress rule proposed for adoption in June. As only .00311% of claims are heat stress related, this rule is unnecessary and cumbersome. I ask you not to adopt this heat stress rule, as employers and employees know how to take common sense precautions in hot weather, and clearly do so, as claims are so low. We do not need another ruling that will add incredible expense to operating our small business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	John Bateman	I would like to express my opposition to L&I instating a Heat stress rule in our state. This is not a climate that warrants such a rule and would cause a hardship to the building trade industry. Companies would like to spend their resources on training, and compensation to provide the best service possible, rules like this one are not only not needed but will cause energy to be spent on something that is less than .00311% of all claims statewide relating to heat stress. Please consider this plea for	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can

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			cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.
General - Opposed	Ken Gohrick Ken Gohrick Construction	How many actual claims or problems arise from heat related issues- hardly any. But you can't wait to add one more layer on us. Many more people get hurt going up and down ladders than by heat problems and you will only compound the ladder claims by adding thousands of more times someone has to go on a ladder to deal with the letter of this proposal. Maybe you will then outlaw ladders and require a scissor lift on every job! Or better yet a person onsite making sure everyone has drunk their water (a water management foreman). Just keep right on running us out of business. Soon all you will have is a few large builders with mega overhead, and that's good for the employees and homeowners? where will it all end!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 49.17 RCW and a Washington State Supreme Court decision (*Rios v. Dept. of L&I*) require the Department to consider rulemaking to address hazards employees are exposed to at their workplace. Heat-related illness is a hazard recognized by OSHA, NIOSH, CDC, as well as industry associations and employee representatives. Although the Department believes heat-related illness claims are underreported due to the symptoms, the frequency of claims is just one of several factors the Department considered when evaluating the need to initiate rulemaking to address this hazard. The Department also considered the severity of the hazard. Heat-related illness can cause serious injuries, including death. Claims data also shows that heat-related illness has directly contributed to other serious injuries (such as falls from ladders). In addition, the Department considered the number of employees potentially exposed to the hazard. Heat-related illness claims information indicates that this hazard occurs throughout many industries across the state. Safety and Health Assessment and Research Project (SHARP) conducted a study on heat-related illness claims. Information on the report is available online at http://www.lni.wa.gov/Safety/Research/files/HeatRelatedIllness.pdf. The full report (publication number 59-1-2006) is available at no cost by contacting SHARP at 1-800-66-SHARP or by email at SHARP@lni.wa.gov.

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General - Opposed	Brent Barcot Pavement Surface Control	I'm against the rule, and one thing that has stuck out in the prefacing comments was if you're in compliance last year, you'll be in compliance this year. So if you were in compliance last year before the rule, why do we need the rule?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department chose not to make a change as a result of this comment. The Department adopted an emergency rule during the summers of 2006 and 2007. An emergency rule is in effect for 120 days. This rulemaking effort is to adopt a permanent rule for heat-related illness.
General - Opposed	Don Wilde Waters & Wood Inc	My name is Don Wilde I own a construction company in Auburn WA. I vehemently oppose the new heat stroke regulations being proposed! This issue is statistically insignificant and needs no new regulation. Enough is enough already, our industry is way over regulated as it is. Please help keep the ailing construction industry viable! Pull the plug on this useless, burdensome rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mary Ann Filippini Northern Marine and General Contracting	I can see a rule like this being more appropriate for the Central San Joaquin Valley, which I'm from, or Arizona where the heat is definitely an issue, but you yourself stated possibly two days would actually fall into this rule -- that this rule would actually be effective. I am just going to say that this is growing government. It's a prime example of ridiculous and burdensome regulations, riding on the coattails of the global warming hoax, and I say -- I think there's more days here in Washington where you'd have problems with frostbite, and is there anything in the rules about that? I don't want to suggest that you even dream up something like that, but I just think this is totally ridiculous, and I think a lot of it is common sense.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick Longnecker Washington Association of Landscape Professionals	I represent WALP, which is the Washington Association of Landscape Professionals, which are 400 member companies across the state in landscape-related industries and their associated vendors. And I also represent my own company, Buds and Blades Landscape Company, which is located here in Olympia. I see this rule as an unnecessary burden on any business for a couple of reasons. I guess one of them is it's extensive recordkeeping and training for at most ten days a year, so I need to concentrate a lot of time on something that might happen -- could or could not happen for ten days a year. The other thing is that I know what lost production costs my company, and we take -- we do training and have safety provisions already in place to minimize that, and part of that is heat-related illnesses. And, in addition, we also have training through our first aid on anything related to heat. And then also I guess, you know, I just see myself and other businesses being caught up in rules and regulations and having costs and I could be spending that time and that money and resources on growing my company by providing additional and/or better jobs that are already in a safe environment. So you're just kind of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095.

WAC Section	Commenter	Comment	DOSH Response
		limiting me from being able to grow my company and give a good place to work so I can attract better people to work for me and snag them from the guys that don't provide a good place to work.	
General - Opposed	Lauri Johns-Andersch. Weyerhaeuser Company	I'm with the Corporate Industrial Hygiene Department. Weyerhaeuser has long required that our sites have a written heat stress program. We have required that they assess the risk. We have required that they provide water to our employees, and in some certain situations cooling devices are required and rest breaks are needed. On many of the indoor activities where we have extreme heat conditions, we have cooled control rooms that our employees can take breaks in. My comments today have to do with the previous commenter's information that had to do with individual heat tolerance. In our assessment of the statistics within the company on the heat stress cases that we have had over the last five years, we have found that in analyzing the data our heat stress cases don't come in groups of five and ten employees. They are single employees that have an event or an incident, and they're largely related to individual issues of heat and tolerance. Employees don't understand when they have worked at a specific job for years and years why all of a sudden they can't handle the heat as they used to when they were 20 and now they're 60. They don't understand often that the medications that their doctor prescribes for them, like high blood pressure medication, significantly affects their hydration and their ability to be able to tolerate the heat. So we have decided to focus our efforts on education and training so that our employees can really understand their individual issues of heat and tolerance and better help take care of themselves because even with a good written program and good controls in place, some employees still fall out.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	John Bayne Reed Design and Construction	The new rule is a nightmare for this business of 5 employees. We already supply water and morning and afternoon breaks as well as bathroom visits as needed and common sense rest if they need shade.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095.
General - Opposed	Jon Andrews Stevens Pass Ski Area	I have just a couple of things on this. You know the Ski Area is divided right on the crest, so we're kind of in between the east and west side debate, whether we're a separate state or not. We have seen a lot of heat-related illness in 40-degree weather. People may overdress, not drink enough water and over-exert themselves, so I think the temperature issue is kind of a moot point in this proposal.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		In the wintertime we have about 1,000 employees. About half of those work in the outdoor environment in 100-plus mile an hour winds, extreme changes in relative humidity and temperature, and for the most part, from what I've seen, people use reasonable judgment in making decisions on how effective they can be in their job, whether they need to have a drink of water or they need to take a rest, and I feel like it's the employer's responsibility to give our employees the tools they need to do the job and to protect themselves from environmental hazards, and so everybody has to watch out for each other, and I think that's what we do. I have worked in the logging industry, and it's the same thing. When you're out in the middle of nowhere, you tend to watch out for each other in that situation. In the summertime we have a crew of about 40 that work in a maintenance crew that work at the ski area. It can be from 120 degrees down to 30 degrees, high winds, humidity changes, extreme changes in those type of weather factors. For the most part, people use reasonable judgment. You know, if it's really hot out, they'll work a little slower, take a few more breaks if necessary, drink a little more water. And for the most part people can make their own decisions, rather than being told what to do to protect themselves from the environment. My recommendation is that L&I create more of an awareness or alert program to employers. You have training available, which is good, but I think people respond better to that type of a system, rather than having a code or law imposed on them. So I don't stand behind this proposal as far as -- I think it's just more over-regulation, but L&I should look at creating programs to make employers more aware of these types of accidents that have happened.	
General - Opposed	Bob Wiesen	I've owned several small businesses throughout my life, and small business is the economic driver. This kind of regulation is another nail in the coffin of small business. How many nails can we stand? This smells like the ergonomics rule. I went to some of those hearings. Most of that testimony was against that proposal or changes were suggested, yet very little change was made. I worry about the effect on agriculture and affordable housing. None of us can possibly follow all the rules that are now in place. It is time to unplug the word processors and work at taking outmoded and ineffective rules off the books. It seems like our government is trying to eliminate all risk to our employees. The end result could be that no productive work will be done in the future.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Chris Voigt Washington State Potato Commission	I'm the Executive Director of the Washington State Potato Commission. First of all, I'd like to thank L&I for holding these hearings, and more importantly thank you for making an effort to, I think, improve on the temporary rule that is in place. I think the new proposed rule is a much better edition. I think it will be easier to comply with. But that being said, we still have some big concerns about it, and it's focused on the State trying to regulate common sense. Before I get into that, if the Department does decide to go ahead with the rule, I do have some suggestions for some possible improvements.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		Also, I want to focus on the training materials. I notice there are some pretty good training materials already available through L&I, but something that would be very helpful is if L&I could produce a training video themselves that is not copyrighted, something that could be distributed free of charge and that could be reproduced free of charge. That's something that our commission could take on. If we could have a copy that wasn't copyrighted, we could make copies for our individual growers and help assist with the training. So non-copyrighted material for the training is very important in getting the word out there and doing a better job. I think that's important. Also in the way of training, we think if the Department could develop some templates for policies and procedures, that would also be helpful. A lot of small businesses probably don't even have policies and procedure themselves, and so any assistance in developing some templates where they could essentially put their name at the top to comply with the training would be very helpful in the way of training. Again, thank you for making an effort to improve the temporary rule. We feel this is better, but again, we are very concerned that the state government is regulating common sense. We would be only the second state in the union to implement a specific heat stress rule. I want to echo the comments of the Farm Bureau that I think if we just utilize the general duty clauses that the other states are doing, I think that would be adequate. I can give a personal example. I grew up in western Oregon, and prior to some of the child labor laws that were later approved, I would spend my summers picking strawberries. I had older brothers and sisters that I would tag along with, so I was out in the strawberry fields at age 6, 7 and 8 picking strawberries. I can't say I was a very productive picker, but I earned enough money to purchase a bike every summer. And even at that age of 6, 7 and 8, I had the common sense to know that when I was thirsty I would drink, and when I was hot I would seek shade or I could do some type of cooling event, whether it was pouring water on my head or even some creative examples of how I was able to keep cool. So even at a young age -- and I'm just of average intelligence, but I think it's just common sense that we know how to protect ourselves in this environment. So thank you for making an effort to improve upon the temporary rule, but again on behalf of the potato industry, we do have concerns with just the general principles of the rule, and we encourage the State to essentially utilize what other states are doing with the general duty clause.	
General - Opposed	Justine Wolff New Creation Construction	I'm with New Creation Construction here in Yakima. I have been in the building industry for 20 years. I have been a business owner for 13 years. I'm currently a member of the Central Washington Home Builders and have invested greatly in that association, and I echo what the three previous people have said wholeheartedly. We are a small business company. We have a small crew, and looking at the financial	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water.

WAC Section	Commenter	Comment	DOSH Response
		implications which I have seen here this morning, it's going to be hard to implement and enforce within a small company. Your bottom line is very important, and in today's economy it's even more stressed to keep the doors open. This right here will make it hard to keep the doors open in our industry. We are sometimes in a situation where we don't have shade for weeks or months in this particular time of the year. I have not figured out how to keep the doors open if this rule is enforced upon us. We are going to send the guys home with four hours of pay. It's a small percentage of what is going on out there in the industry. There's bigger problems out there that I would like to see the focus be put on. As builders we have got a proven reputation as problem solvers. It goes back many years. Like Mr. Crawford said, we alter our days, we alter our work tasks, and we just flat use common sense. There are situations that we deal with every day, and we use common sense, and I think that needs to go back to an employee bringing the water and bringing their lunch and being prepared to work for the day, and that's what needs to happen here. We need to educate the people here on work ethics and what they are expected to do, and that's to bring the water. To provide the amount of water that we are talking about here is just one issue here. I would just like to stress that I think education is going to be the key to this right here. I don't see the benefit of the rule. I see what we have in place as working.	These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General – Opposed	Wendy Emel	Darrel Emel's Tree Service would like to go on record against a Heat Stress rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Chris Olsen	Please pass on to the governor and the legislature to not implement the heat stress rule. It will hurt small businesses and therefore the people they employ. In fact, the heat stress rule will cost so much that many businesses will be forced to reduce its work force in order to pay to implement the ridiculous requirements.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Leonard L. Smith, PE/PLS PacWest Engineering, LLC	I am embarrassed to have to write and comment on the proposed L & I rule for heat stress which outlines new employer requirements on this issue. I have been a defender of the governmental process for ensuring worker safety as a necessary and important function. The proposal as currently constructed leaves no room for any rational analysis to conclude anything other than an extreme over reaction has occurred creating an impression that	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		there is a significant problem with heat stress among the work force in the State of Washington. With our relative mild climate and the low incidence heat stress related illness we have proposed very costly solutions to a minor concern. Requirements that place the onus on the employer of as little as one employee to become more expert in weather issues and look at forecasts on a daily basis is clearly unwarranted. This rule is simply not needed and the energy spent in developing this proposal has been a misguided effort that substantiates those who would call for reducing the number of bureaucrats involved in this program. L & I cannot protect its valuable services if it embarks on these kind of frivolous partisan activities.	
General - Opposed	*Unknown*	What is wrong with everyone in the government? Don't they realize it is adults, and not children that are working and this heat stress rule is a waste of money? What is wrong with people being responsible for themselves and know when they need water and time to get out of the sun? Why does the employer have to babysit adults instead of letting them use common sense? All of our employees have access to water, wet head bands to keep them cool and colored safety glasses. Quit babysitting and let the adults monitor themselves. There is other issues that is more important than babysitting a bunch of grownups.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Gary L. Schneider President of C & J Excavating Inc.	I believe that the heat stress rule is unnecessary, especially in northwestern Washington. It is costly, difficult to manage and not needed.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Scott DeRosier DeRosier Trucking Inc.	This comment is from a Washington business owner against the proposed Heat Stress Rule. We are a 43 year old company that has never had a heat related injury. Forced implementation of something we already work hard to protect our employees from creates another financial burden that would be hard to pass on to customers. In these economic times we need a government that is pro-business, not one that sends our jobs out of state!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General	Jeanne McNeil	The Washington State Nursery & Landscape Association (WSNLA) does not support the	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Washington State Nursery & Landscape Association	finalization of the heat-stress regulation enforced last June, 2007. Since the incidence of heat-related illness is extremely low in the state, this is hardly a major worker safety issue. The impact on the nursery and landscape industry will be negative and in excess of the statutory standard for harm to small business from this regulation since virtually all of the businesses are small businesses and most of the workers work outside. The opposition of the WSNLA does not reflect a lack of concern of the member businesses for workers. These businesses have long recognized the basic tenants of the rule: appropriate shade, adequate water, cooling off places are necessary for outdoor workers in hot weather. The rule, however, does not read like a truly northwest “homegrown” rule specifically addressing local needs. Perhaps if the Department stepped back and crafted mutually agreed-upon guidelines, the affected industries would support the result. The Washington State Nursery & Landscape Association hopes to see a collaborative effort that truly supports both workers and businesses.	concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	Gary D. Letzring P.L.S. Prizm Surveying Inc.	Just a quick comment on the Heat Stress Rule. As a small business owner with 15+ employees, this proposed regulation is going to cost either my clients or my employees. The costs estimated each year for us to be in compliance with this regulation is equal to hiring 2 workers for the year. In times when we are having a severe economic slowdown in the building industry, we can not afford to have government continue to kill our economy with additional regulation. The government is always the last people to be harmed by an economic slow down. We have just laid off 3 workers last Friday, Does L & I want more on un-employment?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Kevin Coker, BArch, CPBD	I wanted to let you know of my opposition to the current heat stress rule legislation being considered. As a certified building designer I am not directly impacted by this onerous change to the workplace but all the small builders that I work with will be and by extension my business will suffer as many others related to the building industry. I do feel that laborers should be protected from extreme environmental conditions. This legislation is not it. It will overwhelm most contractors and drive our current barely affordable housing market in Washington completely out of the realm of 10,000's of potential homeowners.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Ted L. Clifton CVH Inc.	Our employees at CVH Inc. think your proposed heat stress rules are so stupid, they walked out of our mandatory safety meeting, rather than sit through a review of the heat stress program we put in place over the last two years to comply with your "temporary" heat stress rule. When workers who are being paid to sit through a meeting refuse to do so, I think you should get the message. Drop the stupidity, now!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Mark Barrett	I have been made aware of a new ruling by L&I about heat stress. I do know that during	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Barrett Orchards	your comment period last year it was pointed out that your current policy covers this and that new regulation is not needed in Agriculture. In fact L&I had told the press that it was going to continue with voluntary compliance. As a orchardist in Eastern Wa. We have always had adequate drinking water for employees and shade under the trees. Further regulation is not only unnecessary but a burden on farmers to comply with more regulation taking away from our productivity and time spent on production of the food supply.	concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	Elizabeth Stokan, Spalding Auto Parts	As a Washington State resident and human resource professional, I am writing to encourage you to reconsider the proposed L&I heat-related illness rule. The proposed heat-related illness rule is unnecessary and will burden employers with costly training and paperwork that will have little or no positive benefit in reducing illness and injuries. The rule is especially onerous for agriculture, construction and our industry in automotive recycling. Even L&I's Small Business Economic Impact Statement confirms that the proposed rule will impose disproportionately higher costs for small businesses, such as our own. As an employer affected by this proposed rule we see no compelling need for this rule and are urging L&I to reconsider this misguided effort.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick Courson Cedar Bay Homes	I would like to express my disapproval of the burden your rule will place on all business as well as missing the mark on issues that are far more important. Please remove this from further discussion. It is only a way to collect fines.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Ed Rehder III Island West Building Co.	Once again I want to go on record along with every other sane business person in Washington state as being against this new nonsensical heat stress rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Jim & Shelly Fickel Fickel & Son Construction, Inc.	We strongly disagree with the Heat Stress Rule that L& I is attempting to implement upon contractors. Not only is it extremely costly and will be almost impossible to comply with for small contractors...our understanding is that it is not really necessary when compared to the actual problems associated with it. In other words a very small percentage of people have actually been affected, to have a need for such a broad based rule put upon us all!!!!!!!!!!!!!!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Kim Root Root's Incorporated	The expense of L&I's proposed heat stress legislation will be the straw that breaks the camels back for many small businesses. In case you are not aware, our economy is having some difficulties and it is taking its toll on employees as well as their employers. Several of my employees are now at increased risk for heat stroke because they do not have me to remind them to take breaks and keep hydrated…they are laid off.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Lewis Barbe	My concern with the standard is that it appears to assess and reduce risk only in the	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
		context of the thermal aspects of the work environment. Seldom do we confront issues in the workplace where there is not an interaction between workplace injury and illness risks and their controls. A control for one element of risk can become a risk factor for another element of risk. We win in our efforts to create safer workplaces when a net risk reduction is accomplished. Three specific interacting elements of workplace injury risks that include cold workplaces come to my mind as I read this proposed standard. Clothing selected and used may increase the risk of entanglement with machinery. I have consulted in situations where poorly selected clothing employees were wearing in an effort to stay warm contributed to causing them to get caught in moving machinery. I must admit most of these experiences were in situations where the employer did not specify the clothing. While gloves may be the first article of clothing we recognize as presenting this risk, I know of incidents that involved coats and other garments. Guard opening standards are based on the anthropometry of bare hands, not the thickness of textiles used to produce garments. Thus, a guard opening may meet acceptable standards for the bare hand, but allow a garment to enter the opening, become entangled and draw the body part into the machine. Gloves are known to increase the amount of force a worker exerts to accomplish a grasp. If the work task requires grasping, then it would be appropriate to further evaluate the frequency, force levels, and the change in the force levels caused by the current or proposed gloves. Clothing selected and used may interfere with the worker's ability to access features of the equipment or environment in which they work. I use *Human scale 9a* as a reference for body access criteria. This reference gives recommendations for access for different gender and sizes of subjects with clothing levels of "Bare", "Work Clothing, Gloves"; and "Artic Clothing, Mittens". I suspect many of you are familiar with this tool and use it or other such references. I would be more comfortable with the proposed standard if the risk assessment and solutions processes prompted the user to consider other sources of risks which interact with the cold risks or potential solutions.	concerns and opinions presented.
General - Opposed	Daryl Dewell	I am in Real Estate Sales today however I worked outside in all weather conditions year round in Western and some in Eastern Wa in Construction. Mainly for Wilder Construction. I was a heavy equipment operator and Grade Foreman for 15 years. So I am speaking from actual knowledge of the work environment. The advent of OSHA and WISHA on the work force has been a real blessing for the workers. As you know men and women will do things for companies that are not the best for their personal safety. Requiring Employers to provide safe sturdy equipment and tools for	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		employees in the work place has had a general over all positive on the entire work force from Mechanics at Les Schwab Tires to Farm Equipment to requirements for tying off at heights. The large lack in the industry in a day to day operation is the lack of enforcement. As anyone knows there must be 5000 workers for one OSHA safety enforcement person in the field. I have hundreds of friends and family that work for a living and could be affected by State Safety regulations. The only people I know in the last 20 years that have had any direct run ins with actual fines for non compliance is some local roofing companies that were not following the roping off requirements. All the other people I know have little fear of being caught or fined. Over all those people I know have some benefit from the regulations by the fact that they sometimes know when there is an unsafe tool or practice happening. My guess is that a knowledgeable OSHA inspector could write tens or hundreds of violations in any workplace they chose to diligently inspect. My point here is that regulations that are never enforced are really not that valuable to the employees. The serious and obvious ones seem to get picked out by inspectors are one out of a thousand. Like OSHA inspectors driving up to a roofer installing a new roof. From three blocks away one can easily see that the roofers don't have safety ropes on. They get lots of tickets. How about OSHA approved tools, cords, ropes, etc. They never get enforced because they are not highly visible. Worker safety in the outdoors environment whether cold, hot, dusty, smelly, carbon monoxide, etc. Where do you stop? If you are working on the ground on any highway project are you consuming carbon monoxide? What about if you are sitting in a vehicle with the air conditioning on? What then. What is too dusty, What is too smelly, What about standing on hot asphalt all day raking, rolling, sitting on a paver, sitting in a truck hauling asphalt with no air conditioning? Flaggers flagging traffic? What about police officers sitting on the freeway breathing high carbon all day? Where do you stop? Where do you start? Why not do some research and provide the public and private industry with some statistics from actual field testing. Set up a small department that can travel the state and research the amount of dust a flagger inhales in a day: the amount of carbon monoxide the troopers inhale sitting on the freeway all day, the amount of heat and oil that an asphalt worker is exposed to. Then just give that information to Contractors and Suppliers of tools and equipment. If the Contractors building our state hiways had access to purchase safety equipment that their employees could use to make their jobs easier and allow the	

WAC Section	Commenter	Comment	DOSH Response
		employee to be more productive I think sooner or later most would adopt those ideas readily. It's like today. How many OSHA inspectors are out there on SR 2 watching how often the flaggers are relieved for bathroom breaks, which ones have the proper shirt, reflectors, shoes, water???? What ever the rule or law. If it is not enforced is has min value. If the Employer has an opportunity to provide safety equipment that will save them lost wages and unemployment costs they will cooperate immediately. Instead of making new laws why doesn't the State look at providing test sampling take that information to the companies that manufacture safety equipment. Then encourage those manufacturers to produce that equipment for employee safety and suggest (not laws) methods to increase employee comfort and thus save Employment losses. My main issue is to reduce new laws and create a better work environment via a new method of testing and research instead of Laws that mostly will never be enforced. Reduce enforcement and Increase Employee awareness of how they can save money from increased productivity. I am all for a better work environment for the worker.	
General - Opposed	John Cornell, Larson Fruit Company	I am not forwarding the FB letter, as I'm sure you have it, but it appears Dan Fazio has raised a number of material problems with the rule making proposal. I would urge the Dept to withdraw its proposal until such time as it can put forward sufficient justification. As a taxpayer, I just regret the enormous amount of staff time that appears to have been expended by all sides in getting us to this point. It makes one sick to think of what good those dollars might have done if spent in more direct services to the better health of the working folks in this State. I was one of the first to send you my critique of the draft rule. I stand by those observations on a technical basis. But Mr. Fazio has raised serious concerns now about the intent, the justification, and the failure to follow established procedures and plain common sense, that are going to cost the Dept, the tax payer, the business community, and the working folks of this state a lot more money than has already been spent, in order to resolve, should the Dept choose to go forward now. It clearly, and this is a continuing theme of mine as a former public servant, would better serve "the public interest" for the Dept to step back here and leave this bit of rule making in the research phase for the time being. I sense that perhaps this extension of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		the comment deadline could be due to a growing awareness there that this would be the prudent thing to do. One can only hope.	
General – Opposed	Maureen Harkcom	The current rules are fine.....don't mess with them.....we opposed the new (illegal?) rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Robert Terrell	This must be one of the most ridiculous regulations being imposed on those who try to earn a living working outdoors. Maybe those in the Department of Labor and industries that live in a glass bubble need to be told when to have a drink of water or to take your coat off, but most of us still have common sense, when we need to get a drink of water or take a break if we get to hot we do it. This rule having big brother tell us every move is nuts. It would appear that since the rules are so over the top and know one will be able to comply with, this will become just another money extorting scheme hatched up to further drive up the cost of doing business in Washington State or run us out of business. My only hope would be, since I'm certain you are going to enact it, because it's so insane, is that their will be enough business owner who will not allow themselves to be bullied by L&I and instead every time your stupid temperature Index kicks in, just send the employees home, tell them to go to the unemployment office so we can keep you bureaucrats busy.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Don Carlson Cougar Creek Timber Frame LLC	I'm not sure how to say it except: How many more small businesses can we cause to go under. Businesses create jobs not government. Let's get reasonable.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Diane Calloway	The old ruling seems to be working well-why fix something that isn't broken!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Chad Youngquist Pillar Development, LLC / Stoney Creek, LLC	I am writing in regard to the proposed heat stress rule, WAC 296-62-095. I, with my partner, own and operate a small home building company with four full time employees. The proposed heat-related illness rules and regulations seem, at first glance, to be good business practice and a fair way of keeping our employees safe while working outdoors. As I dug deeper into the proposal, however, I realized the proposal's downfalls. Let me start by mentioning that, as employers, we need our employees to be 100% healthy for them to get the assigned tasks completed. So, it is already in our best interest to make the proposal's practices standard operating procedures. As I reviewed the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.

WAC Section	Commenter	Comment	DOSH Response
		proposed measures for keeping employees safe, I realized that all the practices mentioned are practices that we preach on a daily basis anyway. With that said, putting a rule together that slows down the business process and costs business owners even more money is not something I am in favor of. Whatever happened to someone taking responsibility for their own actions? We encourage hydration, provide cool job shacks, provide air conditioned offices, and on the warmest days, bring coolers of water and sports drinks to the jobsites for our employees and the subcontractors. I feel we go over and above what a company should do to keep employees safe. Beyond that, workers need to take responsibility for their own actions. Your proposed rules force business owners to hold the hands of employees and watch while they take care of themselves. They're adults. They can take care of themselves. We operate our business in a mild climate to most standards. We don't see the extreme heat and humidity that a lot of the country sees. On the few days a year where the temperature reaches an uncomfortable level, accountability should not rest solely on the shoulders of business owners, costing the business owners even more money than it already costs to operate. In homebuilding, we take huge risks. It costs a lot for us to own and operate our business. And in the slow housing market we're in, it takes absolutely every creative idea and dollar we have to keep our employees fed and keep our business alive. Every time the Department of Labor and Industries creates a new rule that costs us more to operate our business, they create one more way for us to fail – and put those employees out on the street. We feel good about the safety of our employees. We feel good about the working environment we have created for them. L&I, on the other hand, continually finds ways to make it harder to operate, and punishes the good companies for what the few bad companies do wrong. Why don't you rule makers start thinking of ways to reward the businesses that maintain a solid safety program and healthy working environment instead of always coming up with ways to make life tougher? I am not in favor of WAC 296-62-095, and lobby that the proposal doesn't make it any further.	
General - Opposed	Ronald Grow	The current heat stress rules are sufficient, we do not need additional illegal rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Don Backstrom	Accidents are inevitable. You can't fix stupid... With that said, I want my voice heard in	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Backstrom Curb & Sidewalk, Inc.	disapproval of this action. When you consider the percentage of claims for heat related injuries in relationship to overall claims, it is ludicrous to go forth with such action. Where do we stop??? If people are thirsty, they will drink. The latest study indicates that we should allow our body to dictate liquid intake. Should we require safety guards on lead (graphite) pencils...? True story; an individual is bouncing a pencil off the erasure while talking on the phone, pencil jabs into his hand and' breaks. He successfully files a claim; with lose wages... You can't fix stupid. All too often our government doesn't feel we can take care of ourselves, much less our employees. Alls this regulation does is provide the government another opportunity to burden our tax dollar, and my business dollars, with compliance and enforcement. Once again our government is impacting the legitimate for the violators, when the violators will continue to violate. This regulation requires the training to be "…in a language the employees understand…" At what point is L&I going to require interpreters…??? The system in broken, let's work on fixing it, and not further impacting the legitimate businesses.	concerns and opinions presented.
General - Opposed	Brian Hughes Hughes Building Co., Inc.	I oppose this bill because it will put undue hardship on my business, and it does not appear that the law is warranted.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Carolyn L. Vares Crow Roofing & Sheet Metal, Inc.	As a roofing contractor, we would like to make a comment about the proposed heat illness prevention rules, WAC 296-62-9510 -09560. While the Independent Business Association has proposed revisions to the rules that make this rule acceptable, we are concerned with having this rule altogether. Once in place, future revisions may not make this rule workable for roofing contractors. Further, I don't see the evidence that this rule is needed. People who work outdoors are already cognizant of the heat and conditions and either wear less clothing or drink more water.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Al Bosco Alju Stove and Fireplace Shop	Heat Stress is very important for anyone. I lived and worked in the desert in Welton and Yuma, Arizona. The average day and night temperature in Welton was 122 degrees F. The temperature during the day was 135 to 150 deg.. We started working at 4 AM to avoid some of the heat. We had water all of the time. At the end of the day I had shin splints, one of the first signs of heat fatigue. I drank a gal of iced tea each night. After the first summer that you go through, you do become acclimated. At the end of the summer, the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		temperature was 85 degrees. At 4 AM, I had to roll up my car windows and turn on the heater. Everyone knows that you must drink water when it is hot. It seems that we don't need a regulation to teach something that is common knowledge and common sense. Anyone who works in heat or asks a newcomer to work in heat will automatically advise about drinking water to avoid heat stroke, heat fatigue or heat stress.	
General - Opposed	Gordon Hanson Gordon Hanson Inc.	As an employer in the home building industry, I am strongly opposed to the proposed Heat Stress Rules. Heat stress has never been a problem. The use of common sense on hot days – shade, drinking water, more frequent breaks, and working at earlier (cooler) hours has always been used to prevent problems. Complicated and burdensome regulations from Olympia is not a solution to a problem that does not exist.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	Mark L. Ross Kitsap Paintsmith	Since I will be out of town for the hearing on heat related illness I would like to respond via fax to express my opinions and concerns. As an employer for' over 25 years in our State I have seen more and more legislation that has removed personal responsibility from the worker and placed it onto the employer. Already the cost to do business in our State is one of the highest in the country. As more and more burden is transferred from the individual the employer more time, energy and money must be devoted to the training and enforcement of such rules and regulations. In the painting industry when compared to the number of illegal painting contractors this issue should be of no concern. Cracking down on the unlicensed contractor should be a much greater focus from L&I that heat related illness in our mild Northwest climate. Further, this will create but another unnecessary layer of government that adds to the cost of doing business in our State. On the one or two days a year that this legislative concern applies common sense dictates that my employees drink more water and not work in the afternoon direct sun. On those few days we start earlier and knock off in the heat of the day. This common practice does not have to enforce at the State level. I have personally traveled and observed construction workers in other states and countries that have much hotter climates than ours and see them working in hot weather with no ill effects. This is but another unnecessary attempt to place personal responsibility, onto the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		employer therefore my input is thumbs down on this legislation.	
General - Opposed	Charlene Fansler	I attended the hearing On April 30 in the Tri-Cities and would like to submit our company view regarding the proposed rule. We are against this proposed rule. We agree the General Duty Clause covers heat stress. Many of the states in the south have humidity along with heat which make it much more dangerous to work out doors, yet they have not found it necessary to follow Calif. with this law. Could it be they just use common sense and expect everyone else to do the same? I don't think Washington should be the first state to follow Calif., and adopt new heat stress laws. Washington will soon become a state with so many laws and regulations that new business will not want to move here and the existing business will find it harder to do business here. There are several states in the union that are much hotter than Washington and they have do not find it necessary to adopt this law and causes undo hardship on business. Common sense tells us that if your employee *is* not well and working, we are not well in our business. The Department could be expressing the importance of heat stress better by providing video and written material to employers as tools. These tools we can use at safety meetings to drive home the importance of heat related illness. We are not California and we do not need to be like California.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Dan Shoultz	As a small business owner, I see the State of Washington and L&I continually inventing new ways to impact small businesses in the negative way. I am very safety continuous about my employees, but this new rule would be a very bad impact on small businesses. Enforcement of existing rules would solve the majority of this issue (one of the smallest claim reports). I am aware that L&I does not enforce safety with their own employees like they do with companies. In 2001 we did a project at Towne Square after the 2001 earthquake in the same building as your lab. One of your technicians wore no safety gear as he went to get liquidated nitrogen, only his shorts and t-shirt. He did that every day. He even offered to show one of my employees the liquidated fluid by opening the thermos. So my opinion is that you department has the mentality that new items are the most important things to do (regardless of the impact on small businesses), not enforcing existing safety to the extent it needs.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mike Lowers Timberwood Construction, Inc.	What ever happened to common sense? Are we as contractors too ignorant to take a drink when it is hot outside? I think L & I needs to get real & focus on important concerns.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Chris Alquist All City Door, Inc	Why are you wasting our time w/ this?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Unknown	We are opposed to the Heat Stress Rules being put forth by the Labor & Industries Dept. The rules are excessive and not based in any remote form of reality. This is yet another burden imposed on small business owners that will eventually lead to the downfall of free enterprise and a sound tax base for our state and country. We value our employees too much to put any of them in harms way.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Brian Hughes Hughes Building Co., Inc.	Just wanted to voice my opposition to the Heat Stress Rule being proposed by L&I. Being a small business in the construction industry is very difficult, and we don't need absurd rules complicating and costing us more. Laws like this will cost businesses too much time and money; we are struggling to stay in business as it is, our government should be trying to help not hinder our business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Allen Litzenberger 4-Point Construction	As a small contractor trying to stay afloat with all the regulations that are already complied for us to focus on we do not need a heat stroke relief bill of any kind from L&I. The cost of doing business in this state and we have been doing business in the state for 15 years has us now looking to relocate to a business friendly state. I oppose this latest burden.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Curt Gordon Island Asphalt	Please reconsider any action taken to encumber the already strapped asphalt paving industry. Rules such as this are not necessary. Our staff takes care not to stress our employees and allows ample time for and education about hydration. Under the proposed rule our production would be interrupted often and become much more expensive. This is the kind of rule that will put the workers out of a job because the company they work for can no longer compete, especially small business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Lynette Jacobson Coast Real Estate Services	Please oppose this legislation on behalf of Coast Real Estate Services. This will cost the tax payers and business owners more money unnecessarily.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Lawrence W. Stevens, For Mechanical Contractors Association and National Electrical	Each rule any agency adopts is a trap for employers. Rules are alternately so specific we cannot act, or so vague we can only act at our peril. Making them specific drives up our front-end costs; making them vague drives up our backend-costs. Mr. Furman said it would be reasonable to use the bank "Time & Temp" sign across the street from the construction site. I agree, but a court may not! It was suggested that the Department could adopt "policies" to clarify this, but recent experience ("Brinks") shows the court is not bound by such policies. Please do not adopt these rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
	Contractors Association		
General - Opposed	Unknown	We are small businesses that are struggling to survive in today's business climate. There are so many burdensome rules and regulations to comply with it is almost not worth the American dream to be in business. Never the less we write to petition against the heat stress rule. We are appalled that this is even being considered. It is a regulation nightmare. It is totally unnecessary and we are sure very costly. You people in government better realize that when there is no small business left to regulate you too will be out of a job! The way the state and federal governments are out of control, bankruptcy is only a matter of time. This great country is being destroyed and is being converted to socialism through the new world order. You too will become a slave of the state. The bureaucrats must think we people are stupid and cannot take care of our selves. We need less government not mote. This proposal must not be allowed to be implemented!! There are far more important issues to spend time and money on Immigration Honest Government A Bankrupt Economy Abolish the Federal Reserve Bank Restore the State and Federal Constitutions Abolish the corrupt Internal Revenue Service Etc., etc. Please do the right thing and educate yourself to reality and reject this proposal as we will all be held accountable some day.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Matt McDaniel Pavement Surface Control	The proposed heat stress safety rule is not necessary and should be dropped. Heat stress can easily be monitored and enforced under the general duty rule. The cost to develop and implement the policy exceeds the benefit received by L&I, employers, and employees. The dollars would better be spent on training and education. The number of heat stress related cases in Washington State over the last ten years is minuscule and does not warrant a new rule when an existing rule is already in place. Employers have a moral and legal obligation to provide a safe work place for its employees. Employees also have an ethical obligation to their employer. Drinking water to prevent heat stress is common sense and should not be the employer's responsibility. To the best of my knowledge only one other state, California, has adopted a specific rule	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		addressing heat stress. No southern states with much hotter climates find it necessary. We do not need more rules. The proposed rule is not necessary and should be dropped.	
General - Opposed	Bernice Cave Employee of Pavement Surface Control	The heat stress an employee should be subjected to is an important consideration for the State of Washington's responsibility to protect it's citizens. In today's political climate of "big brother protectionism", we have to view any new rule from the perspective of necessity. Many people with a more technical understanding of this new ruling are providing you with their points of view. The contribution I may offer is that of the average citizen trying to prosper under the weight of government intervention. I personally work for a business where employees are subjected to intense outdoor heat during the summer months. The obvious holds true that the employer takes great efforts to protect it's workers and trains them to protect themselves. As our company practices have change to comply with the changing rules, even better efforts have been made. These include providing large amounts of water to the jobsites, additional safety training for the employees and their supervisors, a change in the company's tolerance for heat safety before job performance, and most importantly, the company's heightened awareness of the employee's safety. As a close observer of these changes, I have found them to be to everyone's benefit and the State of Washington deserves credit for their influence. However, I have reservations as to where this will eventually end. The company I work for has been able to incorporate these changes with reasonable expense of cost and time. However, I believe from a close observer's view, further, tighter restrictions are going to be absorbed by the employee. And that is why I started this letter with the phrase of a citizen trying to prosper in today's protective, regulated climate. I urge you to not follow today's trend of protection beyond common sense and lay yet another burden of regulation upon the working class. Believe me, the common citizen working under the hot, noon day sun is working because he needs money for his family's most basic needs, and those with a responsibility to provide reasonable protection for him should not lose sight of the how important the size of his paycheck is. I have no doubt, the cost of further regulation will be passed on to the employee.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General	George	Please, do not impose another burden on the backs of small business people like me. With	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Booth	all the L&I regs, state and federal revenue and tax regs and forms that I need to fill out, I'm always on the edge of failure. One more thing to keep track of, and worry about getting fined over might be what puts me over the edge. I already put in an 8 hour day at work (in the heat or cold with my employees), and then come home and work another 2-4 hours filling out and filing forms for the state and feds. I also have to find time to bid on upcoming projects, spend time with my family and live a life, adding this just adds one more big thing to the long list of tasks that I have to do for the state. I feel like a slave! more work and no compensation. My dad and uncle, myself and uncounted other people have worked for years without any problems related to heat stress, when your thirsty go and get a drink, it's that simple. According to your own stats, heat related are a very, very small part of work related injuries, why don't you let us focus on the most dangerous situations on the job. This reg may in fact create even more possible threats to safety than it saves. I'd like to write more but I'm late for work.	concerns and opinions presented.
General - Opposed	Dale Pittock Construction Ahead, Inc dba Pavement Surface Control	It has come to my attention that there is a proposed Heat Stress Safety rule distributed for comment. I wish to indicate a lack of support for the proposed rule. My opinion is that the proposed rule is un-necessary, and therefore should be withdrawn. Heat stress can easily be monitored and enforced under the general duty rule. The cost to develop and implement the policy exceeds the benefit received by L&I, employers and employees. The dollars would better be spent on training and education. The few number of heat stress related cases in Washington over the last ten years should not warrant a new rule to supersede an existing rule. An employer has a moral and legal obligation to provide a safe work place for its employees. In turn, an employee has a moral obligation to his/her employer to be aware of conditions in the workplace. Therefore, common sense should be the guideline. The act of drinking water to prevent heat stress is reasonable and attainable solution. To the best of my knowledge California is the only state to have adopted a specific rule addressing heat stress. Apparently, southern states with hotter and more humid climates do not find such a rule to be necessary. It really is time for common sense, personal responsibility and personal obligation to prevail. Over time, rules and regulations tend to cause individuals to look for ways of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		circumvention. Instead, let us use common sense and personal responsibility to do the right thing.	
General – Opposed	Lynn M. Van Auken	Our company certainly does not agree with the heat stress rulings that are currently being considered, or those that have been adopted over the past few years. As a company that values its employees, the rulings are certainly not necessary. I think that for the most part this is true of all small businesses! We all know that finding and training a new employee is vastly more expensive than keeping current employees. Few sensible employees will intentionally put their employees in harm's way.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	Gary Beavan, Puterbaugh Construction	I am a small construction company with 20 employees. We have been in business for 53 years and have never had a problem with any employee and heat stress. We require all employees to attend First Aid/CPR classes every two years. Heat stress is always discussed. We provide ice and water to all our crews. We do not need another rule by L&I dealing with heat/stress. Please do not implement this rule. It is costly and non-productive.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Terry J. Meloy Coldwell Banker Associated, Realtors	The Department of L & I's rule regarding Heat Stress is completely bogus. I can't imagine how reasonable people attempting to improve the working conditions of those who must work out in the weather could come up with the proposed requirements this rule will call for. It is obvious they have never worked anyplace but a well heated and air conditioned office. The cost alone tells you the rule is not well thought out and the comments of L&I's experts as to the savings based on "qualitative loss" is absurd. Until this group of L&I experts gets a life of their own, they should cease and desist from trying to save the world.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Melinda Booth Booth Construction Inc.	I would like to express my strong opposition to the new Heat Stress Rule Regulation scheduled to go into effect in June 2008. We already incorporate this worker safety issue in our existing safety program and regulations. The reported worker injury history for heat stress identifies it as a negligible problem in residential construction. Please reconsider the implementation of this excessive and costly new set of regulations. This will add unnecessary costs in admin and labor hours to our business in a time of recessionary pressures.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for

WAC Section	Commenter	Comment	DOSH Response
			violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	Ken Watson Double K Plumbing, Inc	I am a small plumbing company in Lynnwood, I'm concerned about the heat stress rule. I have supplied each truck with a 5 gal. cooler jug, also purchased a commercial ice maker. Even with all these things for their use, I cannot make them refill or even keep things clean to drink from. So with that I don't feel that the employer should be responsible for providing the employees anything of the sort. If they cannot be responsible enough provide for themselves, what is next make sure they have a lunch? My parents brought me up to fend for myself because no one else will, so with this rule we just keep enabling them to not think for themselves. It's tough enough do business to where we can provide them with work, medical insurance, holiday pay, retirement plan, vacation, ect. Now we have to make sure they have plenty of fluids too, As I said what more do we have to do. I don't want anything to happen to my employees but I believe they should be able to think for themselves, what would happen if we weren't there? Thank you, as you can tell I'm against this.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Steve Robinson	Please, let's not continue with this heat stress rule. It's too expensive to implement and with no real concrete benefits! Let's make Washington more competitive through fewer regulations. It's tough enough right now on small businesses with the cost of fuel.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Greg Lamberton	Please register my opposition to the proposed L&I rules for heat stress. It is my belief they would be an unreasonable burden on business and create a bad name for L&I in the process.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Scott Feist SF Construction Inc.	I oppose the heat stress rule. I feel that if a person is responsible enough to maintain a job, they should also have the ability to be responsible for their own well being at the work place, as well as on their own time.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mark Anderson Capstone Construction	I am the safety manager for Capstone Construction Co., Inc., in Spokane, WA. I plan on being at the hearing today @ the Red Lion Hotel to express my concerns and opposition to the new/proposed Heat Stress Rule. It is complicated, unnecessary and costly.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick Garrett Rainman Seamless Rain Gutters	As a small business owner in the construction industry in Washington State, I am very concerned about the need for these expensive rules and regulations for such a small percentage of the reported injuries. The burden on small businesses (less than 20 employees) like me is phenomenal when added to regular L&I payments I make each quarter. I take pride in my employees and company and am not out to hurt them as they are the center of my business. I do all I can to insure they stay safe and secure with all they do	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		today. And things like having extra water, etc. is easily doable, but some of the other regulations are expensive, time consuming and difficult (at best to enforce). I hope you will listen to the small business backbone of our state and do away with this regulation.	
General - Opposed	Steve Taylor Spokane Home Builders Association	Thank you for the opportunity to comment on the proposed Heat Stress Rule. The 1,200+ member Spokane Home Builders Association opposes the enactment and implementation of this rule. Basically, heat stress injuries are virtually a non-issue in this state. Those injuries that have been cited as poster-child examples for new rules could have been prevented if employers and employees were following the regulations currently on the books. The cost to small business in implementing these new requirements is egregious, especially in comparison to the nebulous additional benefits described by L&I's own analysis of the rule. Building is one of the most highly regulated industries in Washington State. Most builders have very few employees and operate on the margins of profitability, even in booming economic times. Adding another layer of regulation on these businesses will not improve safety, but will, in effect, drive builders out of business, and add thousands in unnecessary costs to home prices. Our organization urges L&I to reconsider implementing this rule. This is a solution in search of a problem, and a costly one at that. Let's focus on real workplace safety issues rather than burdening small business owners with additional expensive, ineffective regulations.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Abigail Rhoads Nob Hill Water Association	Nob Hill Water Association has many concerns regarding the new Heat Stress Ruling that will be going into effect July 5, 2008. In addition to last year's requirements, these new requirements seem to be very unrealistic. To be able to go to every job site, testing the relative humidity, checking for radiant heat, checking the conductive heat sources such as the ground, and the other added requirements, would take extensive time and money that we would have to eventually pass on to our customers. Nob Hill Water Association feels that the existing requirements are sufficient and should remain. Adding more regulations on top of the existing ones will not will not ensure more compliance, just place more burden on the business owners who already comply. In conclusion The Department of Labor and Industries should not adopt more rules; rather simply enforce the laws you already have.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Chris Voigt Washington State Potato Commission	Please accept this letter as written testimony from the Washington State Potato Commission (WSPC), concerning the Department's proposed permanent rule, WAC 296-62-095, Heat-related illness in the outdoor environment. The WSPC is opposed to implementing temporary or permanent rules regarding heat related illness in outdoor environment. The Washington State Potato Commission represents over 300 potato growers, packing operations, and processors in the Washington State potato industry. The Washington State potato industry is valued at over $3.4 billion. There are over 20,000 employed in the production, harvesting, packing, processing, and transportation on our potato crop. The potato industry is very sensitive to the working environment of our employees and works hard to provide safe working conditions. The Potato Commission is in the early stages of drafting a full library of safety training materials that will be made available to all in our industry, of which heat related illness awareness will be included. The potato industry has a good track record of providing safe working conditions for our employees. We have a moral and financial interest in ensuring that our employees are safe and kept in the workforce. As border security tightens for immigration, it's even more important that we work hard to preserve the safety of our current and future employees so that they can remain employed in our industry. We believe that this can be done without the regulatory and financial burden this proposed final rule will place on our industry. If implemented, Washington State would be only the second state in the Union to have specific governmental regulations in place for heat related illnesses. Despite the fact that our northern geography puts us at a much less risk compared to warmer southern tier states. Of the 49 states that do not have specific rules in place for heat related illnesses, may states still managed and enforced this issue through existing "General Duty Clauses". We encourage Washington State to pursue this as a means of addressing heat related illness rather than promulgate new rules. We also encourage the Department to continue strengthening its awareness of heat related illness and training outreach for employers and employees in the State. The proposed final rule is a great improvement over the temporary rule but is still not necessary, especially if the General Duty Clause is used. The rule is an attempt to regulate common sense. The rule has the State regulating an issue that is a personal responsibility. This is even evident in the proposed new section WAC 296-62-09530, (4), "Employees are responsible for monitoring their own personal factors for heat-related	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		illness, including ensuring they consume adequate water". Every morning as an employee gets ready in the morning, they have a good idea of what the weather will be like. If its going to be cold, they dress warmly, if it might rain, they bring appropriate outerwear, if they will be gone over a meal time, they bring their lunch, if it's going to be hot, they know they need to dress appropriately and will require more fluids. This is all common sense. The State should not promulgate rules for common sense matters. If we don't draw the line here, it will only be a matter of time when all employers, will have to regulate all bodily functions, of every employee, to insure they are not creating risk for themselves. My intent is not to belittle the seriousness of heat related illness. This is obviously an important issue for all to be aware of. The WSPC believes the best approach to this issue is for the Dept. of Labor & Industries to continue strengthening awareness and training on this medical condition, rather than promulgate new rules that place burdens on Washington businesses and producers. The Department has many good training materials available but several of them have copy right protections. This prevents many businesses or Commission groups like us, to mass reproduce these materials for our own in house trainings or distribution to members. English and Spanish videos are great resources for our industry and are widely utilized. We encourage the Department to make these videos available on a wider basis. I would suggest posting them on the L&I website for downloading. This would allow businesses greater flexibility in meeting their training needs then the current, "check out and return, library system". After providing oral testimony at the Richland hearing on this issue, I was approached by several staff members from the Department on ways they could assist with our grower training efforts. I appreciate these sincere offers and look forward to working with the Department on many of our safety training efforts. We firmly believe there is a time and place for government intervention to insure the safety and security of our work force and citizens, but this is not one of them. The more we regulate common sense issues like this, the more likely we are to drive businesses out of the state. A vibrant economy and an employed work force is the biggest contributor to a physically healthy and safe workforce.	
General -	Joe & Michelle McNamara	Stop penalizing small businesses. We can not afford the unjustified laws you make. We have to work for a living so we can not make it to your meetings to tell you how we feel.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
Opposed	McNamara Construction, Inc.		
General - Opposed	Eric Hansen Eric Hansen Homes LLC	After reading the proposed rules for heat stress I'm not sure whether to laugh or cry. Most of the time I applaud the work L&I does to protect and inform the work force of this State. Because most of the time the intent and the actions make sense, but this time to put such a burden upon all employers especially small ones like me is ridiculous. I assure you we know about heat and hydration, all we may need is a reminder during summer months about the issues of recognizing hydration situations. This measure, is costly to the point of me having to decide between the cost of doing all of the paperwork proposed or just not having any employees, we are in a recession after all. So I can go back to just being my only worker and if its hot I'll drink more like I do now as does my employee. But I won't have the cost of this silly rule, and my employee will be looking for scarce work in a construction field hard hit by the current economic downturn. But he will have unemployment, and I won't have to pass on the cost of this ridiculous rule to the few customers I have left that are able to afford to have work done on their homes. So in closing if it means I have to lay off employees and obviously not hire new ones to save all those who were suffering from heat stress then I guess its all worth it. Or, maybe we could just keep on doing what we have been and let intelligence, common sense and thirst prevail. Hey, when its hot we'll provide more water like we do now, we'll talk about it during work and during safety meetings and we'll even read the information provided by L&I about heat stress and I'm positive we will have no problems with heat.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Matt Dearing	I oppose the L&I heat stress rule. It's costly, complicated and unnecessary.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Buck Jones Mechanical & Control Services, Inc.	After reviewing this proposed legislation I have a hard time believing it is not a joke. As a heating and air conditioning service technician that has been in the business for 35 years I can tell you, with absolute certainty, that I know when I am getting too hot. I, and the service and install people in our industry do not need the state telling us that we are too hot. Perhaps those who have suggested this idiotic proposal have suffered heat stroke resulting in there obvious lack of common sense. I am passing this information on to some 250 individuals in the HVAC industry (all voters) that have not been so stricken by heat stroke. Please give those who have penned this legislation the necessary treatment they	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		need and stop this insanity!	
General – Opposed	Jonelle Nix Northwest Drywall Services	I am with Northwest Drywall Services and we are opposed to the proposed heat stress rule that L&I is thinking about adopting. We feel it is unnecessary.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Unknown	This onerous new L&I Heat Stress Rule being stabbed in the back of the construction workers and their employers is ominous, like hearing the rumble of enemy tanks. It is as though they have wrapped multiple layers of red tape around our necks and are chuckling and saying "Let's see how long it takes their faces to go from purple to blue!" They are mummifying us with their endless safety regulations and their insatiable need to protect us from all the nightmares that they dream up!! When will it stop?!! When there are no construction companies paying taxes for them to live on because these insidious shadows have put us out of business??!! Their motto ought to be "the only safe construction worker is the one on unemployment!!!" They make construction work like walking through a swamp with a fifty gallon sack of cow manure on your back! It just stinks worse than manure is all! I know of a whole framing crew who quit because L&I had taken all the fun out of it. We construction workers are like gum stuck to the heel of the Washington State Governments shoe. We irritate them so they grind us further into the pavement. We are getting sick of our position.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Mike Ellis	The northwest has weather bad enough to cause these injuries? What does the Midwest and southeast do? We have the best weather in the world. You got to be kidding.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Brian Hughes	As a small contractor this rule is a huge burden in cost and time. As small business is the major employer in the state the government should be figuring out ways to help our business not hurt us.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Lisa Abbott Abbott Construction Company, Inc.	As a small business owner, I am very concerned about the new proposed heat stress rule and the negative impact it will have on many small construction companies, financially, not to mention how cumbersome this ridiculous rule will be to implement and maintain. Does WA State want to drive small construction companies out of business? With the housing industry as sluggish as it already is, how can L&I even begin to think about implementing a rule that is as costly to companies, and in the end to the consumer, as the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		new heat stress rule? Does L&I really think that the consumer will be able to afford the very high cost to complete repairs and/or remodels with these restrictive rules in place, much less buy a new home built if the law is implemented? The high cost of this will have to be passed on to the consumer lest businesses close down. As a small business owner, with the increasing cost of fuel in this state, higher taxes, higher labor cost and insurance rates, I already am finding the line between being competitive enough to get a job verses making enough money to pay my overhead, is getting very thin. Not to mention, the inability to make a profit. The general public needs to be aware of this new proposed heat stress law and how much stress it will, ultimately, put on their pocket books! I have sent a copy of this letter to our local paper. I am hoping the general public will be interested enough in the substantial increase in building costs of this rule, to show up to the local meeting and express their opinions.	
General - Opposed	Brain Ek Tapani Plumbing	I strongly oppose this new “Heat Stress rule proposal” We have a limited amount of days per year that reach over 90 degrees. This is an unnecessary law that will only increase the cost of doing business and take away from the employee’s wage, because everything will go up in cost except the employee’s wage.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Ed Rehder III Island West Building Co.	I just want to go on record as opposed to the new L&I heat stress rule that may become law. In Washington we need a law like that like we need another hole in the head.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Jerry Trudeau	I am already over stressed by too many rules and regulations making it impossible to do business and be profitable in Washington state. Back off, focus on areas that are in need of attention, and give us a break. Enough bloody socialism.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Jeff Throop	Heat related stress rules. In western Washington this is the stupidest thing I've ever heard of. There’s only a couple days a year that we are not wearing flannel to keep warm. Rules shouldn't be made to protect fat asses and drug abusers. Doesn't the history clearly point to the truth that there is almost no record of this happening. Use your heads for a change instead of trying to justify having a job for the state by making up totally new rules that are not beneficial to anyone!!!!!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Bill Carter	My employees are all adults and don't need to be treated like children. The 800 pound gorilla in all of these issues is the Unions. Turning a one man job into a two man job equals double dues collection. Until someone actually says this out loud and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		takes on the unions head first, we will continue down this same path of over regulation. In my opinion, until BIAW and IBA and NFIB and IEC and the farmers groups and restaurant groups and retailer groups, etc, etc. all join forces and present a united front and can arm themselves with the millions of dollars available to the Unions we're all just waving our arms in the air. Let me know if I can help in some way.	
General - Opposed	Jack Colson	Americans in the work force take personal responsibility, get hot get a drink of water, get cold put on a hat. L&I's direction needs to be adjusted back to real problems not playing mommy. This should be a direct insult to all working Americans.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Daryl Dewell	I believe this is a ridiculous new law and I request that you not support or vote for the approval of this new law. I believe there is already too much government regulation on the work place. All this will do is cause the L&I to hire more enforcement employees and will have no value to the worker. Working in the sun or the heat is part of many facets of employment inside as well as outside. Those people that don't like the heat will not apply for a job laying Asphalt. It would be a little tough to control or monitor the heat, humidity and air movement in that field. There will always be employment opportunities in Alaska, out in the Ocean, On an Asphalt roller all day Etc. The employers all have the same responsibility to this date to take care of their employees, provide them with water, warm clothes, safety gear and specialty clothes to protect the workers. They already have a strict safety system that is currently enforced. There is no need for another silly set of rules regarding heat, stress, water, sun, humidity. Employees and Employers already have all that taken in consideration and those individuals that have an allergy to heat or sun for instance would not be asking for employment in these fields to begin with. Leave this one alone please. No more forced government regulation on private industry.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Curt Miller Darby Rural	If construction workers can’t figure out how to keep themselves cool/warm, they should not be doing construction work. We have been working outside in all types of weather for 100’s of years. There is no reason the government needs to interfere now. Nothing is different. However, if this kind of control continues, there will be no one left who can work outside. Only the rich will be able to afford construction projects because all the rules that	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		need to be followed drive up the costs. Give us a break, let us do our job.	
General – Opposed	Ric Peterson AIA Suyama Peterson Deguchi Architects	I would like to express my concerns about the newest Heat Stress Rule now proposed. I realize these rules are well intended, however, there are repercussions that in my humble opinion far outweigh the intentions. I know your schedule is full, so I will only list two main concerns: This proposed rule places a burden of documentation on the contractor, which will manifest as higher construction costs and surely be passed onto the buyers. In this housing climate, this is the last thing we need. Housing costs are already at premium and part of the responsibility is with our governing authorities. Placing rules like this create added administration costs and higher construction review fees when we are looking for ways to create housing that costs less. These rules will end up being a minimum when in some construction conditions more should be required. Builders could look at these as the most they will have to provide for their workers and let common sense go by the wayside because their incentive to protect and provide for their workers has been replaced with an increased amount of paperwork. In other words, you make a rule and employers will do just that and no more, it's human nature. Why not let the employer determine what is required and reward them with employees who stay or come to them because they recognize better conditions? Please consider keeping the government from forcing higher costs to the consumers and possibly decreasing the safety on job sites.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Curt Massie B&B Tile and Masonry	Add my voice to the opposition to this poor misguided legislation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Danny, Cindi & Travis Thompson Precision Paving & Grading, Inc.	We are a small asphalt/paving business in Yakima, WA and we oppose the Heat Stress Rule Proposal which is a costly regulation on small business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	*Unknown*	Your proposed rules on heat related illness are a solution in search of a problem. It is my understanding that very few cases of serious heat illness have occurred the past 10 years and many of these cases may have other health conditions in the people involved. Why can't common sense and personal responsibility be brought to bear when "problems" are present?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		I'm a Washington Employer who won't give you my name because of fear of retaliation. How sad. And how sad that this letter will have no effect on your directed course of action.	
General – Opposed	Bill Roberds Excel Utility Construction	You have asked for my comments on the Heat Stress Rule, thanks for asking but as I understand it, L&I has cast this in stone and comments are only an appeasement, but here are my thoughts anyway. Number one, this rule was probably born in a ninth floor, six foot by six foot cubicle with fluorescent lighting by someone who rode the elevator up and has never worked outside or had to work hard in their entire sheltered life, nor have they ever known or talked with such a working person other than a union organizer, or someone who did not want to work outside. This observation is very obvious as I read the rule. The fact of the mater is that there are some of us out here who enjoy being outside, working hard with our hands and doing things that are tangible and that we can be proud of. I understand that you rule writing folks feel sorry for us and are just looking out for our best interests, but sometimes you go too far, as you have no real understanding of what we do or how we feel about what we do. In your eyes, manual labor performed outdoors is incomprehensible and you probably can't imagine a more horrible, miserable fate. Believe it or not, most of us love working outside with our hands and backs and can't imagine a more horrible fate than being incarcerated in an air conditioned 6 by 6 cubicle form 9 to 5, for me it would be an unimaginable torture. Number two, I am from southern California and was brought up in a family of plumbers, we worked outside and we used common sense to deal with the heat of the day and when it rained we quit for the day, unlike the fools up here who actually work in the rain, and without the protection of a rain stress rule. Those of us who could not understand the weather or were uncomfortable pursued indoor work. Bringing a hat, water and sunscreen, as well as lunch to work was not something that was forced on us, it was common sense, and still is if you enjoy working outdoors. Please remember that some of us like it out here, and no one is forced to pursue outdoor work, forced labor as well as slavery is not allowed anymore. Working outside is working outside and it requires the same precautions as walking down the street. Number three, if you were really concerned about worker (I hate the word Worker, it reminds me of Communism) employee health, you would require that we have sunscreen policies in our Safety Plans, we supply sunscreen to our employees as we know about the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		effects of skin cancers and melanoma on us at work and play, you might investigate the cases of skin cancers in our state, you may be surprised at what you are missing. In summary safety rules such as this are silly and demeaning to all outdoor working people and their employers are all stupid, have no common sense whatsoever and are forced to labor as slaves out in the sun or rain dreaming all day of a comfortable chair in an air conditioned office on the 9th floor. You are dead wrong as is this ridiculous rule. As your Dr. Hayes says, education is a good thing, but Dr. Smith has a flawed vision of "easy" and is out of touch with Washington business owners.	
General - Opposed	Rodney Marshall Retired HVAC worker	It has been called to my attention that you are proposing a radical approach to the problem of heat stress in the labor industry: It is my opinion, based on over 40 yrs of working in all types of weather while performing my duties as a HVAC service person and installation worker, that this is a needless regulation of something that does not need a government agency imposing ridiculous conditions on the performance of labor duties in any weather related situations. What has become of an individual taking responsibility for his own actions? When I worked in extreme conditions, from -10 degrees to +110 degrees (in the shade) I dressed accordingly and made the necessary decisions to protect myself, without some outside agencies interference. Believe me, there is no company that I have ever worked for that wants their employees to become disabled when they need them the most. There is work, especially in the service end of HVAC, that necessitates "getting the repairs done" No matter what the weather conditions are. Can you imagine one getting a call to get a cooling system up and working when it is over 100 degrees out (a common occurrence in the Tri City area) where there is very young or aged or sick people involved and one would have to comply with all the conditions that you are proposing, before proceeding with any work. Would The Department of Labor and Industries want the "death or deaths" of individuals to occur because of the type of regulations that you are advocating?? You know the old adage, you can always put more clothes or blankets on when it is too cold, but you can not take enough clothes off when it is too hot.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		This is just one area that shows how ridiculous your proposed regulations are. Another thing that is very disturbing to me, is "who is going to bear the horrible costs" that it would cost a company to implement all of the conditions proposed ??? The customer, of course. I am hoping for the "well being" of all the citizens of this state, that you put these proposed regulations in the incinerator, where they belong.	
General - Opposed	Dale Smith ODC LLC	As a manager of a small business in Eastern Washington, I am seriously concerned about the rules implementation of the Heat Stress Rule LNI is proposing to enforce this June/July. While we do all we can for our employees safety and well being while at work, we are concerned about the continued Government rules which costs employers additional amounts of money, time and paperwork to continue working in this State. If LNI is targeting a certain business such as Farm Workers it should state so and make and adjust rules to that effect, however generic rule making for the sake of such is detrimental to business in general. It is in the best interest of business in the State of Washington for LNI to pursue other avenues in this area. Thank you for any consideration you may give in making this ruling to not be costly to business in our State.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Cathi Roland Pleasant Valley Electric	I oppose the proposed new rules regarding heat stress. These rules are nonsense, keeping track of temperatures and doing paper work for it is totally ridiculous. We need to enforce rules we already have. It is kind of like saying: Running red lights causes accidents and sometimes death. We need a law to make people stop running red lights. We will have you record how many red traffic lights you encounter at intersections, record your speed, record if wearing seatbelt, record the number of pedestrians around, record the number of bicycles around, record the number of motorcycles around, record the speed limit, record the visibility, record the weather conditions, record the street and sidewalk condition. You must keep track of all this and keep in your file just in case of the event you run a red light and cause an accident. Oh, by the way, be extra careful because when you stop to do all of these requirements you might be rear ended, hit a pedestrian,	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		hit a motorcycle, cause other vehicles to collide or even worse run the red light. Remember this is a good rule, the intersections will be safer for you and someday it just might save one or two lives. We already have rules about running red lights, just not enforced. Keeping all this information does absolutely nothing to stop the problem, common sense tells you not to run red lights, common sense tells you not to speed, rules tell you not to run red lights, rules tell you not to speed, so what is one more rule going to do... stop someone from running a red light or getting into an accident? No, this is not the solution. The solution is to enforce the existing rules, ticket those that are running red lights, ticket those that are speeding, ticket those that are causing accidents. Do not punish those that are using common sense and following the existing rules, they are not the problem.	
General - Opposed	Zimmer Construction Co.	We are contacting you to ask that you please contact the L&I Director Judy Schurke to let her know that we are opposed to the heat stress rule that is to become effective July 5, 2008. This ruling is extremely unfair, unreasonable and costly to small business. I have been in business in Kitsap County for 42 years and am finding it more and more difficult to remain in business in the state of Washington. Lawmakers need to start looking after small business so this state will not loose revenue when businesses move into other states friendlier to small business. Thank you for the time to read this and it is our hope that you will deny passage of this bill.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Dawn Cryan Jerry D. Abrams Company, Inc.	I have just read about the proposed heat stress rule and am writing to you now as a voice of protest. I am a manager in a small business which employs a small landscape maintenance crew. If the heat stress rule were put into place, it would very likely cost us our landscape division as the unreasonable provisions of the rule would prohibit our ability to remain profitable. Landscape maintenance is not a highly profitable business anyway, and adding the costs demanded by the heat stress rule would likely put us into the red. As a small business, we would certainly feel a very negative impact if this rule were to pass. I urge you to consider this impact on small businesses as you work with our state legislators in making a decision about passage of the heat stress rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Katherine Kunkel KACI	The proposed heat stress rule is both unnecessary and extremely costly. We believe this rule will only serve to reduce the number of jobs available to construction workers as the cost of projects and of employment cause builders to let more workers go. We have always had in place summertime practices that protect our workers from heat-related illnesses or injuries. Since we all need to be trained in first aid, we are all very aware of needs for water, protection, and time to cool down, and symptoms of heat-related	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		illness. We do not need rules which go way beyond the needed care, and increase costs dramatically considering the rare instances of heat-related illness.	
General - Opposed	Mark L. Ross Kitsap Paintsmith/ Cornerstone Building Supply	Just want to give my two cents as a business owner on the "New" proposed Heat Stress regulation. I am strongly opposed to this legislation and feel it will be harmful to the painting industry and roofing industry of which I am a part. As an employer this new regulation will dramatically affect the cost of each and every paint job we do. Please vote no on my behalf. This regulation is unnecessary and cost prohibitive.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Diane Kamacho Budget Tank Removal & Environmental Services LLC	Since there are only a couple of months out of the year in this state that heat stress is even a factor in the workplace, why not let companies regulate themselves. Most companies I know already do. Do we really need another regulation forced down our throats by the State?? Do we really need to dump another expense onto the already struggling building sector? Let's stop being so frivolous and address more important issues. Our company implemented the 6am to noon work hours during heat waves, and we make sure everyone stays dehydrated, and we only have 7 employees. Times are tough, let's put our money and resources into other safety issues.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Nancy Neisinger Associated Roofing, Inc	I once suggested via email to then Governor Locke that Washington was heading for a business-free environment. The state would be composed of residential properties and all shopping would be done via internet, in Oregon, and/or in Canada, etc. I don't even remember what he was proposing, but obviously it had to do with small business. I know he was going to convene a blue ribbon panel to look at something. I suggested that blue ribbons belonged at county fairs and what the citizens of the State of Washington deserved was comprehensive business friendly action. Well, that got me cut off from every emailing the Governor again. I guess that blue ribbon panels are more important than those of us who go to work every day, employing roofing crews, and putting money back into the economy through our taxes and employee spending. You just never know...	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Mike Anderson Bellingham Public School District	This message is to express my concern of the potential cost in time and money that may be required responding to elements contained in a proposed heat stress rule, covering the entire state of Washington. This rule will be costly to implement and monitor, and appears to have little real value in most of Western Washington. I believe the concern over heat and its effect on workers is valid, but if there is to be official concern, that concern should be focused on areas extreme heat is a real and consistent threat; not areas where there are seldom degree days of the magnitude validating a law addressing it. I believe this proposed rule flies in the face of our common sense and not a way most voters want their tax dollars spent; there are so many other real threats to health and safety.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Andy Gruhn	My name is Andy Gruhn, the president of Northwest Family Homes, Inc. I strongly oppose	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Northwest Family Homes, Inc.	these heat regulations and do not want any of them to pass,	concerns and opinions presented.
General - Opposed	Robert Lavallee LAVALLEE BUILDERS	I am very concerned about the proposed Heat Stress legislation becoming permanent law. It is not necessary in this climate, and will be very costly for small contractors like myself. I urge you to reconsider and withdraw this proposal.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Carl & Candi Zimmer Zimmer Construction	We are contacting you to ask that you please contact the L&I Director Judy Schurke to let her know that we are opposed to the heat stress rule that is to become effective July 5th 2008. This ruling is extremely unfair, unreasonable and costly to small business. I have been in business in Kitsap County for 42 years and am finding it more and more difficult to remain in business in the state of Washington. Lawmakers need to start looking after small business so this state will not loose revenue when businesses move into other states friendlier to small business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Scott Parr Scott's Tree Service Inc	Do we really need legislation for common sense concerns. I'm not sure public can afford to pay the extra costs for extra testing and paperwork. In Kitsap County we had approximately 3 weeks of extremely hot weather last summer. Do adults need to be told every little thing? Are employers pushing there employees to the point of heat stress? That would be unacceptable in today's society, and aren't there already laws to cover cruel and inhuman treatment? What if all the new rules were followed and some people still got heat stress? What about personal responsibility for the employee and the employer. When it's too hot, slow down, and take more breaks, drink more fluids. In my area this rule seems excessive for something that isn't a problem.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Oppose	Richard J. Williams Preferred Building Contractors, Inc. WA. Professional Building Contractors, Inc. CA	My name is Rick Williams and I am the owner of a construction company in Seattle (20-25 employees) and also of one in Los Angeles, CA. (75-120 employees). The CA. company was opened in 1998 at which time it was my opinion that CA. L&I regulations far exceeded WA. L & I requirements. That relationship, after only ten years, has completely reversed itself. The burden that L&I imposes on an employer is simply untenable. I have been an owner of a construction company for nearly 40 years and I have witnessed the slow progression from L&I serving a viable, needed and useful purpose to the point of it creating regulations to protect employees were no abuse exists. As I read this proposed heat stress regulation it is apparent that, perhaps other than the migrant farm worker industry, this regulation is inappropriate. If the regulation is actually needed it should be targeted to only those industries wherein it may(??) be applicable. The construction (home building) industry clearly is not one of those industries. Our State and in particular our	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		regions housing costs are already unattainable for the average purchaser. This outrageous proposed regulation will only heighten the very serious affordability problem we now face.	
General Opposed	Ken Kalin	This is too burdensome. I will give up my license if this goes through and work through others.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Greg Senger Greg Senger Construction Inc.	I am writing to express opposition to the heat stress rule. It is not necessary. I have been in business in the Hot Tri-Cities for 22 years and never had a worker have heat stress. We are capable of taking care of our workers with out the state invoking these costly rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Davin Crow CROW FRAMING SOLUTIONS INC	My name is Davin Crow, President of Crow Framing Solutions Inc. I have read the proposed updates to the heat stress rule. I am in opposition to the rule as it is written. My company is very proactive in monitoring our employee's hydration and heat exposure. We do take extra breaks and instruct employees to drink more water when it gets over 80 degree with more than 50% humidity. I have never been on a job, mine or anyone else's, where hydration and breaks from the heat and sun are not allowed when an employee or foreman recognizes a need. These new rules are excessive and only give L and I an easy and nonnegotiable way to stop productivity to write a ticket. It seems to me that the rules are written in such a way that employers and employees have no personal choice as to how the issue of heat stress will be solved, but are given a strict and very difficult way to ever fully conform to the proposed regulation. In addition to these I have many thoughts regarding the current reg's and enforcement of all L and I safety regulations. Feel free to contact me at any time.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed		It is almost beyond my comprehension that anyone who has ever visited a construction job-site, if only for a few minutes, could even consider the heat stress rules being proposed. If you've ever been to such a site, I'm sure you've noticed that the vast majority of workers have reached their 18th birthdays and should be responsible for making sure he/she does not suffer a major heatstroke. The contractor is the employer--not the babysitter. Building contractors (and, by the way, I am not one) put a lot of money into the economy	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		as well as into local and state tax coffers. Restrictive rules such as these will cause many contractors to go under and also force many to scale way back on the number of employees they hire. Please reconsider and do not enact these prohibitive rules.	
General - Opposed	Isaac Smith	I am very much opposed to the heat stress rule and am urging you to vote this down. This will cost businesses too much and is not a necessary rule due to the very low case rate statewide.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Bill Stobie	This proposed new regulation by L & I is one of the most foolish ideas that I have heard come from a bureaucracy and or big Government. Are you really trying to put businesses out of business and people out of work? This new proposed rule is not worth the cost and really is no business of any agency of any government. Do not go forward with this proposal. I am a registered voter and believe me I do vote and I watch what is going on in my country and state. I am neither a Democratic nor Republican, I'm a very proud American citizen and veteran and tax payer.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Jim Woessner Westgate Homes	I am writing you with my input regarding the current proposed heat stress rule under review by your department. As a small contractor in the state of Washington I find the new ruling both un-palatable and misguided. With a staff of 5 people working in the field on typically multiple job sites on any given day I cannot imagine how or why we would keep the type of information required by the new proposed rule. My staff has been employed by our company for at least 8 years each… some as long at 15 years. We take care of our staff and show great concern daily for their health and well-being. One of the staff is my own son and another one is my partners son both of whom we have quite in an investment in. The remaining 3 staff members are quite happy with our concern for their safety and well being as they realize, as do we, that they are responsible for our livelihood. For small businesses such as us this rule and other like it continue to stifle our ability to do business, grow and prosper in the state of Washington. As a lifelong resident of this state I find it preposterous that I must consider weather or not I wish to continue my business operations here due to the constant barrage of discriminatory regulation aimed at my chosen profession. I strongly urge your department to consider the impact of this latest proposed rule on the thousands of small business owners such as myself and the further impact these rules would have on the states economy as we leave our state in large numbers. This proposed ruling is not necessary and would be detrimental to our ability to continue to live and work in the state my Great Grandparents found so inviting in 1904. I appreciate your time and hope you will support my views when it comes time to move on this new proposed rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Harold C. Method Jr. Apollo Construction	This is another example of government involvement that is killing small business companies and losing jobs. I urge you to help defeat this, now.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick O'Brien System Specialties	I am a small business owner in the Pacific Northwest. The existing rule that is in place is “over the top” and the new additions to the rule are absurd. A rule as such will put small businesses out of business, period. The numbers that I have seen, with regards to claim percentages, are so small I can believe our state is putting so much effort=$ on such an issue. If people are not in touch with there own bodies to know when they need a break or some water or whatever else why should companies like mine be paying for it.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mark Weissenbuehler American Structures & Design Inc.	I am out in the field on a daily basis so I am all in favor of reducing risk in the field, but I am dumfounded on this heat stress proposal. It seems that with all the good minds and the level of intelligence amongst the Labor & industries we could actually put our thinking in a direction that would do something that may have more of a an impact to helping the majority of the work force out here. It does not take a lot of intelligence to figure out if I am too hot in the field so I do not understand why we have to make this so complicated. I may have missed something but all the reports, info, I have read thus far do not seem to warrant the time and money that it is going to take to prepare, execute, and govern these procedures. I really want to believe you guys are smarter and better than this and I hope we can start focusing on things that will do more and save more so we can start cutting the cost of doing business. It really does seem that we are driving businesses away from our good state. As well as the consumers with the high cost related to doing business here.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Jim Kleiser Mr. Electric	Please be advised, once again government is trying to squeeze the little guy. We can all see that this is a costly requirement that was implemented with little thinking. Providing water on site and training employees about heat stress would be more than adequate. I have an idea; let’s burden contractors, who are trying to make it in a struggling economy already, with more government regulation so they will ultimately have to pass on the burden to the consumer. That’s a real way to jump start the economy! Way to go!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	*Unknown*	Regarding L&I's Heat Stress Rule, why don't you remind L&I that this is Western Washington. I've lived here for 47 years and have always enjoyed the very "Mild" summers here. It is a pleasure to work outside in the summers. Has L&I implemented these foolish tactics in Eastern Washington, or better yet, how about in Arizona!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Richard Urban	I just want to let you know that your new heat stress rules are not only overly onerous on	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Rockford Homes, Inc.	the employer they are equally ludicrous to even contemplate implementation. I would propose that you implement new rules to protect the worker and the employer from overly enthusiastic, moronic bureaucracies that need to justify a reason for their existence.	concerns and opinions presented.
General - Opposed	*Unknown*	What an absurd waste of money for employers! Here's my message - I am tired of spending extra for everything that increased labor costs contribute to. I am not in the construction industry but I am sympathetic for those who own small construction companies!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Oppose	Karin LaPierre	I directly oppose this proposal. It is totally insane, putting too much stress on the small business group, for an L & I issue that has such a low amount of claims. Are you trying to put the small business person out of business? This would definitely do it. I worked in fields and orchards in my teens and young adult life, while earning money to go to college. Yes, I got hot. I took proactive measures to cool myself down. Water was always available, as were rest breaks. This would place many farms out of business and cause more turmoil than it is worth. What is going on with this system? Is there not any other issues, worthy of attention, that could be focused on, and our tax dollars better utilized? Please do what you can to take the stress away from the small businesses, not add to it.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick Root MoldEaters	I am strongly opposed to the heat stress rule. Small businesses are encumbered with so many regulations, that many are simply folding. The business I am in involves working in attics. My employers take good care of me and make sure I am safe and cared for especially when working under severe conditions. They do not need more regulatory paperwork to do what they already do as good employers. Back off, government! We need your help, not more burden to carry.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Frank Imhof Imco Construction	I have noticed over the last three-week period the outrage of our Legislature and our unions and our media over losing the $40 Billion Air Force Tanker Job. While I sit here in one of the coldest states in the union, I hope you can recognize the direct correlation between Legislation like the Employer Heat Stress Regulation Bill and the loss of work like Air Tanker Contract. Large and Small Businesses cannot deal with the entourage of new and ridiculous rules that are imposed upon them like this very bill. It is time for employees to hold some accountable for their actions. The truth is it is difficult to get heat stressed in Washington. Business cannot be competitive when every time we turn our backs we have to deal with silly regulations with no real value except to cost us time and money and make us more vulnerable to Lawsuits.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		I hope you will vote against this Heat Stress Bill that is being proposed on Washington State residence. In fact we are one of the Coolest States in the Union.	
General - Opposed	Jeff Napier Pacific Design & Exteriors Inc.	This proposal is ludicrous, absurd and out of control; we are opposed to it at the very least, in the region that we live in here in the Pacific Northwest there are very few days in a year that would constitute this over board plan and put a financial burden on our small company. We do not wish any harm to our employee's and will and do provide water and breaks for them during the day and as they feel the need. We strongly oppose this ruling and hope that L&I will reconsider and look at other viable, affordable options that will not put a financial hardship on small companies such as ours. With increasing costs of fuel and the declining economy it is harder than ever to operate a small business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes most employers are committed to providing a safe work environment for their employers. Many stakeholders also told the Department that they are already doing what the rule requires and that it is common sense to provide water. These employers will be in compliance with the rules and therefore will not be cited for violations of WAC 296-62-095. Likewise, these employers will not incur additional costs as a result of this rule.
General - Opposed	T. Dean Moody Intermountain West Insulation	I am very opposed to the heat stress rule. I have been in business over 26 years. This rule seems like just another way to spend taxpayer money on something that is not even an issue. We do not live in the times of involuntary servitude any longer. Our workers are very capable of dealing with working outside on their own and drink water when needed and take breaks when needed. We don't need L&I telling us how often they need to drink water and what type of clothing they should wear each day. This is over-regulation and I am 100% opposed to it.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Kevin Russell Pacific Northwest Log Homes LLC/Clawson Construction LLC/The D.C. Margene Company LLC	I would like express my opposition to the pending heat stress rule. This adds another layer of unnecessary rules and cost to our business. Using our company as an example, we have never had a claim and practice safe building and safety education. We also protect our employees. At what point do we get to assume responsibility for ourselves and ask government not to interfere in our business? Please help us to keep our costs down by not allowing the adoption of this rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Ken Jamison Apollo Sheet Metal	I believe that this is the most ridiculous rule they have come up with yet. I've been in the construction business for over 30 years. I have not yet seen anyone suffer from Heat Stress. Pretty soon we will not be able to do anything without filling something out to prove something. No wonder construction costs are skyrocketing out of control. I believe this should be killed immediately. We are old enough not to need a baby sitter looking over our shoulder with every move we make.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Donald and Kari	I oppose the new heat stress legislation proposal. Please add our names to the total of	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Barr Stone Creek Landscaping	voters/businesses in opposition to unnecessary rules.	concerns and opinions presented.
General - Opposed	Greg Reed Apple City Electric	As an electrical contractor that occasionally does work that would fall under the proposed heat stress rule, I think that it is impractical & too costly a rule. This would be a lot of additional cost to be passed on to the customer.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Lois C. Cook America's Phone Guys	I need to state our opposition to these proposed Heat Stress regulations. These are so very unnecessary in a state like ours with the moderate temperatures we have. They will put an undue burden on small contractors & businesses that just isn't fair and isn't needed. Please do not move forward with this plan.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	John Larsen Feller Heating	This is to let you know that we are opposed to any proposed heat stress ruling. We have never witnessed or been involved with projects or jobsites that experienced any impact from this type of incident. I could understand this for work in Eastern Washington in the heat of summer for field workers, but goodness, when does the worker become responsible for taking care of himself or choosing a career that matches their capability? We are a Union shop and pay top wages for workers who are expected to know their limits as well as have a sense of what is fair for the companies they work for.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Brad Deakins, Controller Rodarte Construction, Inc.	I am opposed to the proposed L&I Heat Stress Rule that is scheduled to take effect July 5, 2008. It appears to address a problem that is very minor in our state. Yet, if adopted, it will add unnecessary, excessive costs for construction companies to monitor, place in practice, and to administer in the State of Washington. Worker safety and their well-being is critical to my company. Proper hydration and common sense address the heat stress issue during hot weather. However, creating new rules that cost both employers and the state time and dollars is frivolous and unneeded. I urge you to not adopt this rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Dave Abbott Apollo Construction Services	There is no way this should be put on the employer. Hope it does not go through.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mike Ellis Apollo Construction Services	In the 20 years of construction safety I have had only two heat stress situations that arose. Both were in Asbestos containments while abating a heated steam line. In both cases controls were in place but the employees went drinking the night before and came in very dehydrated. This rule is insane. How about we take this effort and money and reduce the EMR rate for state employees. It is obvious this is a pet project for a couple of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		personnel and not attacking real issues that cause serious deaths and injuries. We at Apollo are committed to an Injury-Free Environment. This is not a solution but a burden.	
General - Opposed	Sharon Kollmar Kollmar Inc.	We at Kollmar Inc. an HVAC contractor strongly oppose the L&I Rules on heat stress. It is just another form of government control of our business and freedom. My mother worked in the fields and warehouses most of her adult life, hoeing mint, picking grapes, etc. She had the good sense to carry with her an insulated jug of water and also to drink it without being told. Since there are rules regarding children working (we'd rather they were running around in gangs shooting one another or spray-painting our businesses), one could assume that most of the workers would be adults and if they don't have the sense to drink water then I sincerely believe they are not capable of holding down a job and present the employer with undue risk. One can not take all of the responsibility away from the individual and expect to have anything except users and robots. This rule does not greatly impact us as most of our work is inside after a building has already been erected and our people are working inside, but I still feel strongly that it is out of line. Employees have three breaks in which to eat, drink, and use the facilities, there is always water available for them to drink, and believe it of not some actually bring their own!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Darrel Suthergreen Earthworks Company Inc.	I manage a small excavation/site development business on Orcas Island with 10 employees and lots of regulatory requirements to comply with. Our owners (husband and wife) have just listed the business for sale which is not what they wanted to do. The county, state, and federal regulations are so numerous, burdensome, and costly along with the threats for noncompliance that they have decided it is not worth it both monetarily and emotionally to continue (even though they have made sure throughout the years that they have been running their business totally above board and by the rules). The heat stress proposal is another good reason to get out of business. The sad thing is our ten employees who work very hard but live paycheck to paycheck will be put in a really tough position of having to try to find another job on our job-scarce small island or move off and look for something on the mainland, both of which are tough situations. The heat stress proposal, sad to say, will not help anyone here on Orcas Island, but just add more compliance costs which we cannot afford. It is truly unfair that so much of our tax monies are spent this way.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Jeff Lambert	I want to relay our complete dissatisfaction in the heat stress rule as presented by L&I, we	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
- Opposed	Diamond Rentals Inc.	do not support this and encourage that this not be passed.	concerns and opinions presented.
General - Opposed	Gary A. Randol, Jr. American Ironworks & Erectors, Inc.	I want to express my opposition to the proposed Heat Stress Rules. Please feel free to contact me should you have any questions.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Paul Simmons Onsite Construction LLC	I am deeply concerned about the current heat stress rules and the new rules L&I intends to adopt. Is there no end to which you will go to burden contractors with undue paperwork and regulations? This is just plain nonsense. My employees are laughing at this. This is just another bureaucratic maneuver to expand L&I's authority to monitor every little aspect of the construction industry.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Florence C. Yount Apollo Sheetmetal, Inc.	Please give this issue your attention. I am a 58-year-old female who has worked in the construction business for 35 years. I also live in eastern Washington. Please don't strap our employers with unnecessary bologna. It is hard to pull a decent wage now. Most of us acclimate to the weather and I have never been told to do unrealistic jobs in severe heat. It does get 110 in the Tri-Cities in the summer and I see people out doing highway work all the time. It is tough work and there is someone willing to do it who knows exactly what to expect. If you do not want to work in the heat....go somewhere else. Please do not let this law pass.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General	Martin Oreschnigg The ORIGINAL SIGN*A*RAMA	I am e-mailing to urge you to reconsider the effect the proposed rule making concerning heat related stress. This rule, I believe is very unnecessary and costly to the small business person. With only 4 or 5 employees, this would be an undue financial hardship on me and my company.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Ray Bowman C3 Design Center	As a business owner in Washington State – providing good wage paying jobs to my employees - I want to go on record opposing the Heat Stress Rule. Personally, I'm offending with more government regulation inferring that I provide a sub-standard working environment for my valued employees.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		I understand the conditions my employees work in better than anyone. I'm committed to complying with current workplace requirements and keeping my valued employees safe. I encourage you not to enact the Heat Stress Rule. It will not benefit my employees, but it will place a financial burden on my business requiring me to reduce the number of people I employ and the benefits I provide. I appreciate you considering my comments and hope you ultimately decide not to impose the Heat Stress Rule.	
General - Opposed	Steve Waltemate S.A.W. Construction Co., Inc.	As a local business owner I want to officially state my opposition to the proposed Heat Stress Rule. I appreciate the careful consideration you will give to weighing the benefits, or lack thereof, when making a decision that will have a negative financial impact on my business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Johnson Bog	As a business owner in Washington State – providing good wage paying jobs to my employees - I want to go on record opposing the Heat Stress Rule. Personally, I'm offending with more government regulation inferring that I provide a sub-standard working environment for my valued employees. I understand the conditions my employees work in better than anyone. I'm committed to complying with current workplace requirements and keeping my valued employees safe. I encourage you not to enact the Heat Stress Rule. It will not benefit my employees, but it will place a financial burden on my business requiring me to reduce the number of people I employ and the benefits I provide. I appreciate you considering my comments and hope you ultimately decide not to impose the Heat Stress Rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Hillary S. Trusty Dr. Roof	As a business owner in Washington State – providing good wage paying jobs to my employees - I want to go on record opposing the Heat Stress Rule. Personally, I'm offending with more government regulation inferring that I provide a sub-standard working environment for my valued employees. I understand the conditions my employees work in better than anyone. I'm committed to complying with current workplace requirements and keeping my valued employees safe.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		I encourage you not to enact the Heat Stress Rule. It will not benefit my employees, but it will place a financial burden on my business requiring me to reduce the number of people I employ and the benefits I provide. I appreciate you considering my comments and hope you ultimately decide not to impose the Heat Stress Rule.	
General - Opposed	Oman & Son Building Supply	As a local business owner I want to officially state my opposition to the proposed Heat Stress Rule. I appreciate the careful consideration you will give to weighing the benefits, or lack thereof, when making a decision that will have a negative financial impact on my business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Mike Nichols Nichols Masonry and Concrete	As a local business owner I want to officially state my opposition to the proposed Heat Stress Rule. I appreciate the careful consideration you will give to weighing the benefits, or lack thereof, when making a decision that will have a negative financial impact on my business.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Alice Anderson Town & Country Post Frame Buildings	Our company is strongly opposed to this Heat Stress Rule. We should not have to be a baby-sitting service for people.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Joel Kretz State Representative, 7th District	This is a follow up to my letter dated May 29th, 2007. I continue to oppose the administrative process Labor and Industries' (L&I) has decided to use in promulgating new rules regarding heat related illness in the outdoor environment. Again, the small businesses, ranchers, farmers, orchardists, loggers and other folks whom I represent in the 7th Legislative District will be unduly and unnecessarily burdened by an emergency rule that will be enforced upon them. I strongly urge you to reconsider your plans to publish this as an emergency rule. Please feel free to contact me to discuss this issue at further length.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Terry R. Hall Eclipse Heating and Cooling LLC	I cannot believe L&I is trying to create yet another ridiculous law to impose on small businesses. It's not enough that we have the laws now. It makes no sense and I am firmly opposed.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
General - Opposed	Dan Elsom Elsom Roofing, Inc.	This heat stress rule is a ridiculous rule, which could cause potential more hazards. There are already rules on the books that cover these. We are already paying outlandish cost to L & I this is only going to add to that expense. I am very much opposed to this Heat Stress Rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – Opposed	Don Wilde Waters & Wood Inc	Dear socialist: I have been in the construction industry for over twenty years and not once here in the toasty northwest have I ever seen a case of heat stress. Instead of a cradle to grave nanny state where you socialists want to control our every move, why not let us peons decide when it's time to get out of the sun. Oh yeah you've dumbed us down so far with the crappy monopolistic school system that we are now too stupid to get out of the heat. Now you want to tell us how many ounces of water to drink! You morons are going to finish off the ailing housing industry with a bunch of bullshit regulations.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Rick Witters Cressy Door Company Inc	Please do not load another ruling upon us small business guys who are already paying way too much for L & I. I have a limited staff that is already burdened with paperwork. Please leave it up to the common sense of the employees to regulate their own heat stress and environment. I don't think we need more regulations, and rules. Please reward businesses who do have fewer claims and problems as an incentive for the rest to bring their standards up. Thank you for hearing me.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Dwayne Kohler	The cost of the heat stress regulations you plan to adopt June 4th vs. reasonable safety regulations for workers that could be worked out in intelligent discussions with the building industry indicates mental irrationality and arrogance. L&I's overwrought and unbalanced approach is costly to our community and deserves to be noted. Nobody wants to expose workers to undue hazard. Your approach is broad-brush and seems promulgated to generate fees as much as protect anybody. I can't wait for the next election to send you and Governor Gregoire a more effective message via the ballot box. Until then, I am sure I will continue to remain dissatisfied with your department as one of the worst in the nation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Jerry Nebel	Please consider the small business when you consider new heat stress rules. I believe that you are going a little over the top here.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - Opposed	Joy Beckerman Maher Sun Construction Inc.	We are writing to express our strong opposition to the proposed heat stress rule. The construction business in our region is already unnecessarily burdened with countless regulations and inappropriate far-reaching responsibilities. We hire mentally competent adults and provide a safe environment in which to work. The planet is hot in the summertime, and mentally competent adults are capable of dressing and hydrating according to their comfort level and thirst (especially since we provide the water). The proposed heat stress rule imposes unduly burdensome, costly, and time-	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		consuming responsibilities that are simply unfair and unjust.	
General comments – In favor			
General – In favor	Aces Four Construction Company	The BIAW keeps sending us mailings talking about what a horrible new idea permanently implementing the Heat Stress Rule will be, but we disagree. Just wanted to say that it doesn't seem that unreasonable or difficult to follow.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Jennie Kordenat Oregon & SW Washington Fair Contracting Foundation	My name is Jennie Kordenat, Compliance Investigator for FCF. I'm also a Journeyman Electrician with 14 years experience in the Industrial Electrical trade. Personally I have worked above running paper machines at Longview Fibre and Norpac in Longview, Washington. I have worked in situations that required special equipment and very frequent resting periods. Being a union electrician I had the proper training and education along with the backing of my local union representatives for handling the situation of production vs. health and safety. Not everyone has the benefit of the support that my union representation gave me. I see workers on a daily basis out on projects that cut corners to increase production or simply because they were told to. If there aren't laws that protect workers from harm it's inevitable that some contractors and/or supervisors will push their workers when it's unsafe and serious risk or death is involved. I fully support L&I's proposed workplace rules to protect workers from the dangers of heat stress and heat related injuries. This can happen out doors or indoors. Constant exposure to heat and sunlight (outdoors) can disorient a worker and ultimately cause serious accidents or even death. Please protect our workers from the dangers of heat stress.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Miriam Israel Moses Rebound	I am the executive director of Rebound. Rebound is a private non-profit organization funded by the contributions of the rank and file membership of a consortium of building and construction trades unions. We are dedicated to the betterment of workers' lives and we strongly support adoption of these rules. The legitimacy of heat stress as an injurious and potentially fatal factor in the outdoor workplace is not a myth. It has been fully acknowledged by many health organizations, including, among others, OSHA, the Center For Disease Control, and the American Red Cross, all of which by the way provide free prevention guides which I believe would satisfy the requirements for the written procedures that are established in the proposed rules and they can be easily adopted. Although the law requires us to look at the economic impact of our rules and legislation on effected employers, protections against heat-stress related injuries and fatalities cannot be viewed in simple economic terms.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		This is a matter of basic common sense. These preventions should not, but do, require regulation. Rather these safety measures should really result from respect and compassion of one person, employer or not, for the life of another. With only a few simple precautions set forth in the proposed WACs, injuries and fatalities can be prevented. What are the employers actually required to do under these rules? Establish, implement, and maintain written procedures, identify and evaluate heat-related environmental factors, reduce risks by providing rest breaks, encouraging frequent consumption of water, providing information and training, and establishing procedures for responding to the signs or symptoms of possible heat-related illnesses and accessing medical aid. As I read these simple requirements, I wonder how anyone can stand in objection to their adoption and implementation without also implying that they place a few dollars above the cost of not only one life but the lives of the family members who are also effected by the very real injuries and fatalities of which we speak. L&I has fully performed its due diligence in working with labor and business in determining both the possible maximum and minimum costs to small business and business of implementing these rules. As I read the numbers resulting from a survey, the total approximate highest cost per worker only for those days in which there is a danger of heat stress for small business would be $11.65 per day, per FTE. The low in the same survey would be one and a half cents per day per employee. This includes, when you are going to the high, an actual estimated cost by employers of $2.48 for one quart of water per day. Which in my opinion, having shopped at a local supermarket, would leave some doubt as to the veracity of those numbers. By assuming the high cost, if we did assume that the high cost provided was absolutely accurate, one can only ask then whether the life of a human being and the lives of the family of that human being are worth less than the profit to be lost if $11.65 per day had to be spent to protect a worker during the comparatively few working days when the dangers of heat-stress related injuries and fatalities are actually present. In 2006 two workers died of heat stress. Let us never again let that happen. Rebound fully supports and urges adoption of these proposed rules. Let us not live in the dark ages where our working men and women are left to die for lack of water or shade or some	

WAC Section	Commenter	Comment	DOSH Response
		undue concern for profit and production that sacrifices safety and humanity at the expense of human life. Thank you for the opportunity to testify today.	
General – in favor	Mike Carnahan	Hello, my name is Mike Carnahan and I would like to address the proposed rules relating to Heat Stress and related illnesses. I've been in the construction industry for thirty plus years. Over the years as the construction industry has changed, the need for worker protections has greatly increased. Part of this is due to the potential money that will be made from the project or plant when it is complete and goes into production or the house or office space is sold or rented. The last several years the customers have wanted the projects completed with such urgency that they are more than willing to pay overtime and bonuses in order that the crews work 10 to 12 hours a day and 6 or 7 days a week. When this natural fatigue mixes with hot weather we have the potential for serious problems. Often accidents that are listed as falls or worker error are the direct cause of diminished alertness from the stress caused by heat and fatigue. No one should have to go home in any less physical shape than when they showed up to work that morning. We all, no matter what our occupation should have a safe work environment, even construction workers and plant operators. And while the potential for injury is greater in some occupations the need for reasonable safeguards should also be there. My experience is that most employers want to do the right thing and try to treat their employees as best they can, however some do not! For what ever reason that some people do not care to do the correct thing we must have rules in place. If there was never a problem we would not need any rules or laws. I would like to tell you about a tragedy that I experienced almost two years ago. It occurred in The Dalles, Oregon but could have happened anywhere. Several different construction trades were working on a very major project and had been working long hours for several months when the weather started getting very hot (well over 100 plus) for days. The company that I worked for was very concerned and brought in some plywood, lumber, tarps, and small tents for us to make shelters and places to have water coolers and shade. We were the biggest company on the site and we offered water to others when we saw that they did not have any. One day a healthy looking 20 something young man collapsed and 911 was called. He later died of heat related problems according to what we were told. The company that he worked for had several safety violations over the months and never provided water that we could see to their people. I do not know if that was a company policy or just the foreman on site; however that is always the concern we all have with any safety issue. Management in the field may or may not follow company policy, but we can make calls to safety officials and get them to follow the law.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		Please, these rules you are looking at will not hurt a good company that cares, but the rules could save a life when someone is working for the occasional company or boss that is only out for the bottom line. Every construction worker I've worked with wants their employer to make a profit, we want to have a place to go to work tomorrow; we just want to be alive to go to work tomorrow.	
General – in favor	Carol Robertson Rainbow Federal, Inc.	Rainbow Federal, Inc. is a roofing contracting firm that will directly be affected by the proposed heat illness prevention rules -WAC 296-62-9510 -09560 now out for public comment. We have reviewed the comments of the Independent Business Association regarding proposed revisions to these heat illness prevention rules. Our company believes that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like ours.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – in favor	Brian Zahler Thompson Roofing & Gutters	We are a roofing contracting firm that will directly be affected by the proposed heat illness prevention rules – WAC 296-62-9510 - 09560 now out for public comment. We have also reviewed the comments of the Independent Business Association regarding proposed revisions to these heat illness prevention rules. Our company believes that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like ours.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – In favor	Robert C. Hernacki Redmond Roofing	We are a roofing contracting firm that will directly be affected by the proposed heat illness prevention rules -WAC 296-62-9510 -09560 now out for public comment. We have also reviewed the comments of the Independent Business Association regarding proposed revisions to these heal illness prevention rules. While we hold that experienced common sense by men who work in the elements daily make any such formal rule unnecessary our company believes that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like ours.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General	Donald R. Vose	My name is Donald R. Vose. I am president of Legends Roofing Co., Inc. We are a	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
– in favor	Legends Roofing Co., Inc.	roofing contractor who will be directly affected by the proposed heat illness prevention rules-WAC 296-62-9510 -09560 now out for public comment. We have also reviewed the comments of the Independent Business Association regarding proposed revisions to these heat illness prevention rules. Legends Roofing Co., Inc. believes that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like ours.	concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – in favor	Steve Grinaker WRS Seattle a Tecta America Co.	We are a roofing contracting firm that will directly be affected by the proposed heat illness prevention rules -WAC 296-62-9510 -09560 now out for public comment. We have also reviewed the comments of the Independent Business Association regarding proposed revisions to these heat illness prevention rules. Our company believes that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like ours.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – In favor	Randy Mooney Dan Leslie Roofing Inc.	We have a roofing company in eastern Washington. Our company is very aware of heat stress and the illness it can cause. The new Heat Illness Prevention rules WAC 296-62-9510 thru 9560 now out for public comment will directly affect our business in a negative manner. After reviewing the comments of the Roofing Contractors Association and Independent Business Association regarding the new rule changes. We feel the revisions proposed by the RCAW/IDBA are acceptable for our company.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – In favor	Greg Reiswig Anderson Roofing, Inc.	I own a roofing company that will directly be affected by the proposed heat illness prevention rules – WAC 296-62-9510-09560 now out for public comment. I have reviewed the comments of the Independent Business Association regarding the proposed revisions to these heat illness prevention rules. I believe that with the revisions proposed by the Independent Business Association, that the heat illness prevention rules proposed by the Department are acceptable and workable for firms like mine.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has incorporated the suggestions of the Independent Business Association into WAC 296-62-095.
General – In favor	Timm Ormsby	You and the Washington State Dept. of Labor & Industries' staff deserve much credit and appreciation for making our state's workplaces among the safest on the globe. Still, there is much more that can be done to improve the safety of Washington workers as we were	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		recently reminded at the annual Worker's Memorial Day. Labor and Industries' proposed heat stress rule changes are common sense directives to provide more acceptable protections for workers who labor in extreme outdoor weather conditions. As a cement mason for over twenty years, I have personal experience performing grueling physical labor in very hot conditions. It is time to update the procedures for working in an unforgiving environment that is often in the triple digits during the construction season here in Eastern Washington. While I am not an industrial hygienist, Labor and Industries' proposed new rule changes to protect workers from heat-related illness when working outdoors in hot weather can be easily interpreted. This rule change represents the best practices available. The proposal requires employers with employees who work outdoors to provide basic protections and reasonable preventions. Though not an expert, I understand these realistic expectations to include: An updated safety program to include measures to reduce the risk of heat-related illness; educating employees to recognize the signs, symptoms and risks of heat-related illness and what to do if someone has symptoms; monitoring the weather forecast and temperatures daily to know when it's hot enough to require preventive measures; on days when temperatures require preventive measures, increasing the volume of water provided to employees and respond to any employee with symptoms of illness. I encourage you in the strongest terms possible to adopt these meaningful improvements to the safety of workers who labor in extreme conditions beyond their control. Again, many thanks to you and your staff for your continuing efforts to make Washington State a better and safer place to work, live, and raise a family.	
General – In favor	Bob Markholt, Coordinator Pre-Apprenticeship Construction Training (SVI PACT)	Please support the common sense legislation that would protect construction workers from heat related diseases such as heat exhaustion, dehydration, and heat stroke. These minimum efforts do not raise the costs on a construction job; rather, they save costs by preventing time loss. Heat related diseases can easily be prevented, and they are a routine subject of safety meetings during hot weather. Please do not allow groups that oppose regulation of all kinds to take us back to the days when construction injuries and deaths were much more common.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In	Keith J. Weir	I am writing to you in support of the proposed changes to the heat stress rule. As an electrician with IBEW Local 46 I am working outside at time during all kinds of weather. It	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
favor		is senseless to have someone die of something that could be so easily remedied, employers need to take responsibility for the continued health and welfare of those working in their charge. Thank you for understanding the importance of this matter, we all can't work in controlled environments, and it is necessary to bring this understanding to the forefront, even in a cloudy state like WA!	
General – In favor	Dave Hauge Lease Crutcher Lewis	I would like to go on record that I feel the proposal as written is adequate. And having a competent person check the forecast is enough. I do not believe the weather forecast should have to be documented.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – in favor	Chuck Bailey, Ironworkers Local 86	I'm sorry that it has become necessary for this issue to intrude into your already overwhelming schedule. You see, if the various industries who seem to always oppose any type of governmental regulation would begin regulating themselves, the need for the Department's interventions would be considerably reduced. The Department has a Constitutional obligation to protect the working women and men employed in our state. I just want you to know that you have the continued support of the workers in Washington State for the fine job that you and your team are doing. Some times it is not easy doing the right thing, but when all is said and done, it's still the right thing.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Lynne Dodson, President AFT Seattle Community Colleges, Local 1789, AFL-CIO	On behalf of the American Federation of Teacher (AFT) Seattle Community Colleges, Local 1789, I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Worker's Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) • The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor work to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – in favor	Greg Borg Washington State Council of Firefighters	I guess I want to thank the Department of Labor and Industries for the efforts that they have put into this. We have heard from a lot of employers this afternoon. Usually it's not the employers that get hurt, it's the employees. Senator Ahern had talked about the cost of these programs and what it costs to keep an employee safe. About a year-and-a-half ago in Seattle, a battalion chief came to the station and ordered the crew to do a drill in their bunker gear in weather that was in the high 80s. The lieutenant on the crew had a seizure from a heat issue and was hospitalized, and it ended up costing the city a considerable amount of money. The Seattle Fire Department had another issue with a probationary firefighter that was 30-some feet up a ladder and had a heat-related problem because the same battalion chief wasn't monitoring him, and he fell from the ladder and was severely injured and will never be able to work as a firefighter again. When the city was done paying his medical bills and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		done settling with his wife and him monetarily, it cost them several million dollars because of the employer's negligence. It would be nice to live in a world where the employers took care of the employees, but we don't. We live in a world where we have to make the employers take care of the employees. And it has been my experience on your fire department here in Spokane -- we have struggled with our department to have live fire drills in the wintertime, and they insist on having them in July. We have struggled with them to reschedule those things, and they don't want to hear it. We have tried to negotiate a heat-related illness policy for our own department, and it has been extremely difficult to do. We need the backing of the Department of Labor and Industries to get a policy that works for us, and we are willing to work with L&I to have a good policy, and we appreciate the work that they've done. We could address this in the firefighters' vertical standard if need be, but we are not the only employees that have people hurt because of heat-related illnesses. I would think that common sense would indicate to our employees that you don't put winter clothes on somebody to have a drill that you could have had in January, but they have it in July. Common sense is unavailable for some of our employers. Some of the employers talked about the expense of this and that they would have people that are unemployed. We are told by our employers at times if you don't like the rules here, then you go work somewhere else. I guess my comment to the employers is if they don't live by these rules, then they should go do something else for a living because the employees are tired of getting hurt, and they're tired of being killed. We appreciate what L&I is doing.	
General – In favor	Candelaria Murillo Columbia Legal Services	I'm here on behalf of Erasto Garcia, a farm worker who we represent who has suffered from heat-related illness, as well as Otilia Camacho, the widow of Manual Camacho, who died from a heat-related illness in 2006, and Maria Aguiar, who as a result of a heat-related illness also got injured coming down a ladder. All of them have provided some testimony, and they all represent other workers who are similarly situated. We will provide the agency with written comments and suggest some modifications to the rule that address issues that the rule doesn't speak to that would allow for the rule to be more comprehensive and more worker-protective. I do want to focus on L&I's rulemaking duty regarding heat-related illness, and I would like to just very quickly read from the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		WISHA mandate, the Washington Industrial Safety and Health Act. It says, "The Director of L&I shall provide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning harmful physical agents and shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence that no employee will suffer material impairment of health or functional capacities." L&I has defined a harmful physical agent as any physical stress such as heat. In order to further prevent the material impairment of health of these workers, a heat-related illness rule is necessary, and this is in light of the severity of the health effects of heat-related illness. Some of the scientific studies that we mentioned in our petition, as well as in our comments, will attest to that, as well as a threat of exposure to the workers, especially in the hotter months of Washington.	
General – In favor	Peter Cropper Rebound	I'm a Compliance Investigator with Rebound. Rebound is a private, non-profit organization funded through the contributions of the rank and file membership of a consortium of building and construction trade unions. I am speaking today on behalf of our organization. Rebound favors the adoption of the proposed updated rules to protect workers against the dangers of heat stress. The proposed revisions are a necessary and critical response by the Department to the injuries and even deaths that have resulted from outdoor workers being overexposed to heat and sun and the stress that takes place on their bodies and minds. When subjected to this overexposure, the judgment of workers on outdoor jobs can become seriously impaired, resulting in critical and even fatal injuries. For employees working outdoors, we cannot eliminate exposure to the elements, but we can take action to limit the effects of the exposure on those workers and to ensure their safety, as well as the safety of their co-workers. These updated rules will provide these necessary protections. They will ensure safer working conditions and establish the basis for raising public awareness and educating employees and employers about the danger and how to combat it. We look forward to a speedy adoption and implementation of these rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In	Mark Manning Teamsters	I am a business representative with Teamsters Local Union 117. And I am here -- I didn't initially sign up to speak, but I did want to after hearing some other testimony. On behalf of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
favor	Local Union 117	Local 117, John A. Williams, secretary treasurer of that local, I would say that the local is in favor of adopting these rules. Local 117 represents 16,000-plus members through a statewide jurisdiction in Washington. We have a variety of members who do work outside. I myself represent King County Department of Transportation Roads crews who work outdoors, as well as Parks departments. We have people in a variety of capacities who work in outdoor environments. And while I can certainly understand the argument about the temperature in the state of Washington not being the highest -- I am originally from New Mexico where we actually have summers, so I can appreciate that comment -- but that comment seems to leave out the physical exertion that can become part of the work day. The simple day temperature is not exclusively what contributes to a factor of heat exhaustion. I didn't come here prepared with a bunch of data or oral argument, I simply am wanting to make clear that this is a reasonable rule for some employers, and argue that providing a respite and water in order to assure that their own employees remain healthy and able to perform their jobs is reasonable. I find it kind of disturbing to think otherwise, personally.	
General – In favor	David Freiboth Martin Luther King, Jr. County Labor Council, AFL-CIO	On behalf of the M.K. King, Jr. county Labor Council I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Worker's Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		followed these common sense rules. The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) • The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor work to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Jeff Johnson Washington State Labor Council, AFL-CIO	I am the special assistant for the president of Washington State Labor Council, AFL-CIO. The Washington State Labor Council is fully in support of these permanent rules for heat-related illnesses. This is -- on the one hand this is a terrific week for these hearings to be held because Worker Memorial Day was held earlier this week, a ceremony and a day to think about health and safety of the workplace that actually the labor men started about a dozen or so years ago. On the other hand, from our perspective -- this is a form of apology -- this is probably the busiest political week in state laborer's annual calendar. This is the year we do all our endorsements and we do interviews and candidates and endorsements that culminates in meeting tonight and all day tomorrow.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		As a consequence, because this week was chosen it was difficult to get labor leaders from around the state to actually show up in person to these hearings. And we can't -- in order to get our everyday workers to come in they have got to take a day off of work and that is not a very feasible thing to do. So I would ask the department, I have got lots of labor leaders that want to put their comments into the record, but given our meetings that go on until about 10:00 tonight and then all day tomorrow, they are not going to make the deadline. And I would ask for a deadline of 5:00 p.m. next Wednesday in order for them to get their comments in. I have heard in the discussions around these heat stress rules that -- the argument made that well, you know, it is not really a very serious problem because it really doesn't show up in the workers' compensation data. And I guess I want to say that that is probably not an accurate way of looking at this. It is kind of like the lighthouse effect. If you ask how many ships break up on the rocks or don't break up on the rocks, it is kind of hard to tell. You have got lighthouses all up and down the coast and their job is to warn ships that there is danger ahead so they steer clear. So we never really know just how many ships were saved. With heat stress it is a similar thing. You are not going to get very many worker comp claims that show up as being caused by heat stress. They are going to show up as other things. They are going to show up as falls mostly. Occasionally they are going to show up as heart attacks. But more often than not they are not going to show up as heat-stress related claims. So the actual number of worker comp claims categorized as heat-stress related are really going to severely underestimate the problem out there. We have had two deaths in this state in the past two and a half years that were heat-stress related. One in agriculture in the hops industry. I think you probably heard testimony earlier in the week on that individual. We have another one in Vancouver, a construction worker in his early twenties who was digging trenches. He died as well. The sad thing about these things are these deaths are totally preventable. In Oregon there were a couple deaths over the last couple of years, and in California several, all related to heat-related illness. I want to tell you one story because I think it is applicable to these rules and could have	

WAC Section	Commenter	Comment	DOSH Response
		been avoided if these rules were both in place and followed by the employers. This was of Eladio Hernandez who was an orchard worker. And he two years ago started suffering heat stress symptoms as well while picking fruit in the orchard. And he started coming down the ladder and he fell. And he sat on the ground and he crawled underneath the tree to rest. He was there for a while and the supervisor came by and said, "Eladio, what are you doing?" He said, "Well, I am not feeling so well." He said, "Okay, you sit there for a bit." And he sat there for a bit and the supervisor came back in about 20 minutes and said, "Eladio, why are you still there? Are you just tired? Are you being lazy?" So on and so forth. And Eladio wasn't functioning real well at the time, which is symptomatic of heat stress. He wasn't thinking real clearly and he just said, "I am not feeling well." So the supervisor loaded him up in the truck and drove him back to the station and just dropped him off. He didn't give him water. He didn't pursue it any further. Eladio fell on the ground. Workers that were there taking a rest break came up to Eladio trying to figure out what was going on. They tried to do whatever they could to revive him. One of them finally called the EMT. The EMTs came, they arrived within 20 minutes, and Eladio was dead. Again, rare circumstances when it results in this type of travesty. But I don't know if any of you have suffered heat stress -- it is not a pejorative question -- but it is very subtle. I did when I was in my twenties, when I worked for a moving company in New York. And it sneaks up on you. And it kind of starts off as kind of a fluttering in your stomach. And you can't quite decipher is that just because I didn't eat enough for breakfast or did I lift something a little too heavy. But then after that you start feeling a little bit nauseous. You try to push through it. And then all of a sudden you start feeling kind of clammy, damp. And then you get a little dizzy. Your vision gets a little blurred. And when it gets really bad and you sit down, you start getting pretty lethargic. You can't think real clearly. You can't really help yourself. I have also heard, last year when these rules were put out in a provisional form or emergency form or whatever the technical term is, I remember a journalist in Seattle, Ken Schram, made joke, made light of these rules and basically said, "Well, it is really just a matter of common sense, workers don't drink enough water." Well, I challenge Mr. Schram or anyone else that hasn't suffered heat stress that it is not an easy thing to do.	

WAC Section	Commenter	Comment	DOSH Response
		Once it hits you -- and it can hit fast, and like I said the signs are subtle at first -- you really can't help yourself very much. You need someone else to help you. So it is not an issue of common sense on the workers' part. It is not an issue of having a glass of water or a water bottle strapped to your side. But it really is about basic common sense protections put into the rules that then the employers, as the agent on the premises and responsible for supervising the workforce, need to follow. And these are real simple. It is providing sufficient water at a sufficient and appropriate temperature for workers to have. It is providing cooling-down areas for when workers start to suffer these symptoms. And it is training. It is training their supervisors and it is training their workers to the sign so that you don't misinterpret them and you can figure them out more quickly. If taken seriously by employers, these rules will lower worker comp claims, but more importantly they will save lives. And that's why we support these rules and encourage the department to adopt them as written.	
General – In favor	Candelaria Murillo Daniel G. Ford Columbia Legal Services	On behalf of our client, Erasto Garcia, Columbia Legal Services submits the following comments concerning the Department of Labor and Industries proposed Heat-Related Illness (HRI) rule. The Washington Industrial Safety and Health Act (WISHA) requires L&I to adopt occupational health and safety standards that most adequately assure, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity. A rule to prevent HRI is necessary to prevent material impairment of health in light of (a) the severity of the health effects associated with occupational heat illness, including three documented heat-related deaths in Washington State in 2005-06; and (b) the threat of exposure inherent in working outdoors during the hotter months in Washington. An estimated 6 million workers in the United States are exposed to occupational heat stress. Further, heat illness prevention is feasible. The Washington Supreme Court found that "the phrase "to the extent feasible" in WISHA means "to the extent the standard is capable of being economically and technologically accomplished. Because California has implemented an HRI standard similar to the proposed rule since 2005 and Washington implemented an emergency rule similar to the proposed rule in 2007, an HRI standard similar to the proposed rule can be accomplished. HRI rulemaking is similarly supported by L&I's cost-benefit analysis (CBA). The Administrative Procedure Act requires that the CBA consider both qualitative and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		quantitative benefits and costs and the specific directives of WISHA. The CBA estimates $21 million to $50 million per year in quantitative benefits to workers and employers from preventing heat-related deaths, preventing injury and illness, saving workers' compensation and indirect costs, and avoiding lost productivity due to worker dehydration. These figures do not include qualitative benefits such as avoiding pain and suffering of deceased workers' family and friends, prevention of long-term health problems, prevention of work-related injuries stemming from HRI, protection of vulnerable workers and clarification of existing safe workplace requirements. The CBA shows that the midpoint in the range of estimated net benefits (i.e., estimated benefits minus estimated costs) is approximately $16.5 million per year, even without considering the qualitative benefits of the proposed rule. L&I's CBA is further supported by California's assessment that the costs of providing protection from HRI would be offset by improved productivity, improvement of employee health, and saving lives. We urge L&I provide workers with meaningful protections by adopting language consistent with our comments.	
General – In favor	John Kearns OPCMIA Local 528	I feel very strongly that this Rule could help Cement Masons. The product we deal with is concrete and is very heat sensitive. While in the winter a piece of concrete might take 10 to15 hours finish, That same piece in summer might only take 2 to3 hours. Therefore as the heat increases cement masons have to work harder. I myself have gotten more than one headache while working hard in the summer and that is one of the first signs of dehydration. One hot day a couple of years ago lost 20 pounds and had to take a two days of to recover. All because there was not enough water on the project.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	David Johnson, Executive Secretary The Washington State Building & Construction Trades Council, AFL-CIO	Workplace illness, injury and death caused by over exposure to heat stress and sun is a genuine concern for the building trades industry, and other professions who spend considerable time working outdoors (and indoors) in environments so hot that illness, injury and death occur as a result. Exposure and deaths are avoidable when proper education and prevention measures are taken. The fact that any deaths are occurring is proof that increased awareness and early action is appropriate, as addressed by the Department in this rule update to inform employers, employees and the general public. I commend Labor & Industries and all the stakeholders who have deliberated for the past several months to update the heat rules. This update is long overdue to improve and protect workers from exposure to heat exhaustion, illness and avoidable deaths due to excessively hot working environments. Furthermore, it is important to recognize that eliminating exhaustion and exposure to	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		extended high temperatures, guards against other injuries and mistakes when judgment and ability are impaired due to the onset of heat exhaustion symptoms. These progressive changes to the rules protect workers through education, awareness, preventive action, and emergency aide response. Summer is near, it in now time to end the debate and adopt the rules to begin educating employers , employees and the general public and to eliminate heat stress in the workplace. I commend the completed rule review process and recommend final adoption of the heat stress rule updates as a positive move forward for Washington.	
General – In favor	Karen Gude UFCW Local 1439	On behalf of United Food and Commercial Workers' Local 1439, I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) • The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Pete Crow Washington State Association of Plumbers and Pipefitters	The Washington State Association of Plumbers and Pipefitters represents over 7,800 workers that will be affected by the adoption of the new Heat Stress rules. We wish to strongly urge the adoption of the rules. Our members work in all sorts of weather conditions outside on construction jobs but also work inside in conditions that are dangerous and can be fatal if not carefully monitored. We support safety regulations that protect workers so they may make it home each night and not become a tragic victim in a sad newspaper article about a worker losing their life at work. Many of our members are at risk when working in 100 degree plus weather, in an aluminum rolling mill with temperatures exceeding 130 degrees, above a power boiler in a paper mill welding pipe, or in a hot confined space without ventilation. I have personally been required to wear an "ice vest" to help keep my temperature cool enough that I could work in areas for only 15 minutes at a time. If not for proper precautions taken by my employer and the workers it is very likely a serious injury or a fatality could have happened. We believe Labor and Industries is taking responsible action on Heat Stress and we support the new rules. It is very easy for the cynics to make claims that the rules are not necessary or will be too costly but what about the cost to the worker and their family If they should die when the accident could have been avoided by good safety policies? We urge Labor and Industries to move the Heat Stress rules forward to protect all working men and women.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
General – In favor	Miriam Israel Moses Rebound	For the record, my name is Miriam Israel Moses. I am the Executive Director of REBOUND. REBOUND is a private, non-profit organization funded by the contributions of the rank and file membership of a consortium of building and construction trades unions. We are dedicated to the betterment of workers' lives. We strongly support the adoption of these rules. The legitimacy of Heat Stress as an injurious and potentially fatal factor in the outdoor workplace is not a myth. It has been fully acknowledged by many health organizations including, among others, OSHA, The Center for Disease Control, and The American Red Cross -all of which, by the way, provide free Prevention Guides to Promote Workplace Health and Safety in situations where Heat Stress may occur. These free materials, would likely meet the requirements for written procedures established in the proposed rules, and they can easily be adopted. Although the law requires us to look at the economic impact of our rules and legislation on affected employers, protections against Heat Stress related injuries and fatalities cannot be viewed in simple, economic terms. This is a matter of basic common sense -these preventions should not even require regulation rather, these safety measures should really result from the respect and compassion of one person, employer or not, for the life of another. With only the few simple precautions set forth in the proposed WAC, injuries and fatalities can be prevented. What are the employers actually required to do under these rules? 1. Establish, implement, and maintain written procedures a. Identify and evaluate heat related environmental factors; b. Reduce the risks by: i. Providing rest breaks; ii. Encouraging frequent consumption of water; iii. Providing information and training; iv. Establishing procedures for responding to signs or symptoms of possible heat-related illness and accessing medical aid. As I read these simple requirements, I wonder how anyone can stand in objection to their adoption and implementation, without also implying that they place a few dollars above the cost of -not only one life -but the lives of the family members who are also affected by the very real injuries and fatalities of which we speak.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		L&I has fully performed its due diligence in working with Labor and Business, and in determining both the possible maximum and minimum costs to business of implementing these rules. As I read the numbers resulting from its survey, the total approximate highest cost per worker, only for those days in which there is a danger of heat stress, would be $11.65 per day per FTE. The low would be $015. These costs include, for example, employer estimates of $2.48 for one quart of drinking water per day, leaving some doubt as to the veracity of the numbers. But assuming that the high costs provided are absolutely accurate, one can only ask whether the life of a human being, and the lives of the family of that human being, are worth less than the profit to be lost if $11.65 per day had to be spent to protect a worker during the comparatively few working days when the dangers of heat stress related injuries and fatalities are actually present. In 2006, two workers died of heat stress. Let us never let that happen again. REBOUND fully supports and urges adoption of these proposed rules. Let us not live in the dark ages where our working men and women are left to die for lack of water or shade, or an undue concern for profit and production that sacrifices safety and humanity, at the expense of human lives.	
General – In favor	Douglas D. Palachuk Carpenters Local 770	On behalf of Carpenters Local Union 770. I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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General – In favor	Mike Harding UA Local 32	I just wanted to express my support for the proposed rule changes for outdoor work environments. There is no reasonable excuse that would justify why someone has died or been injured because of over exposure to the sun or excessive heat. The changes are reasonable and overdue. Please support these changes and make Washington a safer place to work.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	William C. Smith OP&CMIA Local 478	On behalf of Operative Plasterer's & Cement Masons Local 478 I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out- door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Bob Guenther President of TLMCCLC	As the President of the Thurston Lewis Mason Counties Central Labor Council, I would like to make sure you know we fully support the proposed administrative rules in regard to heat – related illness.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		On April 28th I attended the Workers Memorial Day held at L &I, the ceremony reminded me of the dangers in the workplace and gave me a chance to remember those who lost their lives in the work place. Having worked in an industry where heat was a serious concern and as the elected safety chairman heat stress was one of my pet peeves. At times I didn't make many friends either from the workers or the employer because of my continued concern over working conditions. I found both employees and employers didn't take heat stress as serious a threat as I thought it should be. As recently as last week I observed workers not taking enough water with them to the fields to do a day's work even when an abundant supply was at the dock for them prior to departure. I was able to assign a person to make the rounds of the six sites we were working to make sure water was available throughout the day. Heat stress has caused several deaths in our state since 2005 (the agriculture and construction industries) I am writing to make sure I don't have to hear the bell ring for any more deaths caused by heat stress, we must prevent these tragedies by invoking simple rules and insuring employers follow them. Simple rules will save lives: • The employer provides potable water for employees • Employer is required to have a written plan and procedures to reduce risk of heat-related illness. Including the need for rest breaks depending on the temperature and humidity that would trigger HRI. (The army has such triggers for the training of troops) • The worker must have a means to reduce body temperature when there is a sign of heat stress. The employer will ensure the workers are monitored and determine if medical treatment is necessary. • The employer will provide sufficient training to workers and supervisors about the risk of HRI and how to deal with signs of HRI when it occurs. We would hope that you tighten up the rules and require that water remains cool, and a shaded area be provided for workers breaks. The employer will make sure training be provided in a language that supervision and workers understand. With the hot season coming upon us, every thing possible should be done to prevent the	

WAC Section	Commenter	Comment	DOSH Response
		bell ringing next year to remember a worker's death due to HRI. Thank you and your workers for the work that is being done on behalf of our state.	
General In favor	Pete Marsh IBEW Local Union 112	On behalf of IBEW Local Union #112, I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out- door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Mark A. Blondin International Association of Machinists and Aerospace Workers	On behalf of the International Association of Machinists and Aerospace Workers, I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out- door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. Provide sufficient information and training to both workers and supervisors on the risks of	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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General – In favor	James Woodward United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (USW)	On behalf of the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (USW), I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out- door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). Provide worker with the means to reduce body temperature when there are signs of heat	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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General – In favor	Ligia M. Velázquez Labor Council for Latin American Advancement (LCLAA)	On behalf of The Labor Council for Latin American Advancement (LCLAA) I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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General – In favor	Rubby Sanchez	I want to register my support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. I have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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General – In favor	Rod Foster UA Local 32	Thought I'd take a minute or so to add my support for the hopeful final adoption of the updated heat stress rules for outdoor work. I believe it is absolutely essential to get these updated rulings in place, despite being hampered in your efforts by BIAW.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - In favor	Tracy Prezeau Washington State Association of Electrical Workers	I write this email urging the Department of Labor and Industries move forward with the final adoption of the proposed updated heat stress rules for out door work environments. As a Labor Representative and as a Journeyman Electrician, I am in support of adopting the rule changes for the following reasons: ·The updated rules provide long over-due improvements and protections to combat heat exhaustion, illness and avoidable deaths due to excessively hot working conditions ·Eliminating heat exhaustion guards against other injuries and mistakes when judgment and ability is impaired due to early onset of heat exhaustion	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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		·L&I has taken responsive steps to respond with common sense to conditions of heat and sun exposure that cause death and illness for professionals who work outdoors to make progressive changes in the rules to protect workers through education, awareness, preventive action and emergency aide awareness ·It's time to adopt the rules and get on with educating employers, employees and the general public to eliminate heat stress deaths in the work place.	
General – In favor	Kim Williams	Laborers Local 440 a Heavy Highway Local who does all out door work. Supports the Heat Stress changes by the department. Mr. Schram before making uninformed statements about working in the extreme heat or the employers genuine concern for those employees should come out with me for a day. There are still many jobsites where workers don't get fresh drinking water or breaks. Please continue your efforts to protect our members the hard working men and women who build our communities.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Anthony Forret	I am writing to express my support for proposed rulemaking/rule changes regarding heat stress and heat exhaustion in outdoor work environments.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General - In favor	Donnie Patterson FST/Business Manager	Local 14 is in support of the proposed heat related rules.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Steve Witte United Farm Workers	It has been and continues to be the position of the United Farm Workers that the injuries and deaths resulting Heat Stress are easily preventable. However, some employers and some agricultural workers require these regulations as impetus of maintaining safe and healthful working conditions in the state of Washington. Some agricultural workers do not always recognize the warning signs of Heat Stress Illness whether this is due to ignorance, pressure by supervisors or need to earn as much money as possible working in a piece rate system. Without all sectors, L & I, supervisors and worker aware and working together, I believe, we will see a repeat similar to the work place deaths that resulted from Heat Stress Illness. All sectors recognize that these deaths could have been easily prevented. The UFW holds that the current L&I regulations which mirror those in California have been effective deterrents to additional worker deaths in Washington. I would suggest that L&I should either eliminate the trigger for when the rule is in effect, or make it effective from	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		May to September. I would suggest that the current rules remain in place for those times before and after that period when it is possible, but rare, for excess temperature situations. A simplified approach will be easier for employers and workers to understand. Suitably cool and readily available water must be provided by employers, again this is a cost effective preventive to what can be a deadly situation. As in California, L&I should require workers to provide shade or other cooling areas during breaks to prevent heat illness. It is not enough to require access to cooling. Having such areas are crucial to lowing the heart rate, facilitating the cooling needed for worker safety and preventing injury and death. Preventable injury and death must take precedence to a company's bottom line. It is imperative that L&I continue to protect the lives of workers who work in and harvest Washington's crops. Please see the website listed for additional information. http://www.capitalpress.info/print.asp?ArticleID=32573&SectionID=94&SubSectionID=801 http://www.occupationalhazards.com/Classes/Article/ArticleDraw_P.aspx# http://www.ohsonline.com/print.aspx?aid=44681	
General – In Favor	Chris Glenn	I strongly urge passage of the updated Heat Stress rules for outdoor work environment. I work outdoors in all kinds of weather as a flagger for a major sub-contractor to one of the major utilities in the state. This contractor has approximately 60 crews in the field, and each crew is a "cost center." Some of the jobs they work on are cost plus, most are cost plus. As you can well imagine on the fixed cost jobs, their is emphasis and pressure on the foremen to make money for the company. As we flaggers for this sub-contractor, are dispatched daily, most times, and are in essence Gypsies, working for the crews on an as needed basis, we often move from crew to crew, sometimes 2 or 3 crews in a day, their is little allegiance to the flaggers, who are really not a part of the regular 3 man crew. Therefore sometimes there is less concern for the welfare of the flaggers, depending on the particular foremen. For flaggers working on a variety of road types, often with no shade available, often breaks in short supply and sometimes even lunch breaks lacking, updating these rules is imperative. Also, continued emphasis on training personnel with regard to the changes contained in the revised rules is of extreme importance. Thank you so much for the concern regarding those of us that help to build the infrastructure of this state. P.S. In advance, I have not had time to fully read all the rules concerning working in the outdoor work environment. However, if the rules do not already address "cold stress" and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment.

WAC Section	Commenter	Comment	DOSH Response
		wind chill/possible frost bite, for those of us in the construction/utilities industries that do work outside in all weather conditions, might at some future time this issue be addressed?	
General – In Favor	Kathleen Riley	I retired in '03 after working outside for the phone company for 30 years. I was the first woman to work in any "outside" or "man's" job on this side of the mountains. I know what it is to work in all types of weather trying to keep people in service. I am writing in support of L&I's final adoption of the heat stress rule updates. These updates can save lives and improve worker productivity. Always good things to do in my book.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In Favor	Doris Wright	I don't work for any union, but I do not like to see people suffering from heat exhaustion. Therefore I am urging you to support updating the Heat Stress Rules so that workers can protect themselves from making mistakes in judgment due to heat stress or even dropping dead. Please consider with compassion and practicality.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In Favor	Arne Bjorkelo IBEW Local 46 wireman	I am writing to urge your support of the proposed heat stress rules being considered. After 25 years of working in the construction industry, I can tell you that there are many occasions in my past where heat stress on the jobsite has affected my well being. There has been little official protection from high temperature conditions on jobsites.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In Favor	Representative Mike Sells, 38th Legislative District	I am strong believer that we need to move ahead on the heat stress rules in the State of Washington. I would encourage the Department of Labor and Industries to move quickly on the issue.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Mel Fitzpatrick Ironworkers Local # 14	Ironworkers Local 14 would like to thank the Department for their work on the Heat-related illness rules. We are in full support of the rule. We feel the rule change is necessary based on what we have seen in the past. Most contractors are already in compliance but unfortunately some aren't and that is what makes these new rules important.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Erasto Garcia	*(Spoken through translator, Estella Castro)* I represent Columbia Services. I would like to support this law. I'm here to support it. We would like some shade during the hot time during the day and during lunch time when there is no place to go and cover up from the sun. There are some areas where there is no shade at all, not even from the trees, so that we can rest. And sometimes what we do is we will mention it to the foreman, and we will ask if maybe we can continue working during our break time so that we can get off work earlier. And, well, that's not good for the employee because one never knows what type of illness one could get. That's one thing.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		The other thing is that we would like fresh water, meaning fresh from that same day. There are some farmers that will provide water, but then two or three days go by and that water has not been switched, and so sometimes that is the reason we don't drink it. It is very hot, and then sometimes you are working by the piece and so what you want is to be able to earn more. When you work by the piece and it's very hot -- well, it happened to me once. I was feeling dizzy because it was so hot and because we were not drinking water because there wasn't any. And so that is my proposal, that it could become a law and they would comply with all of that.	
General – In favor	David D. Johnson, Washington State Building and Construction Trades Council, AFL-CIO	Affiliate representatives of the Building and Construction Trades, experienced in continuous extreme weather conditions on the job, participated with other relevant stakeholders during the rewrite of the outdoor heat stress emergency rule and subsequent final draft proposal. The Building and Construction Trades Council supports the Department's rewrite of the Heat Stress Rule scheduled for final public comment next month in five cities across Washington. <u>Heat stress deaths are avoidable with proper education and preparation.</u> The Building and Construction Trades will continue supporting final adoption of the Heat Stress Rule rewrite so symptoms and conditions are recognized and early action becomes routine to avoid heat-related circumstances on the job that disorient workers to the point of injury, accident and avoidable death. A primary role of the Department is to preemptively reduce lives lost or disabled due to working conditions. Stakeholders from business, labor, the medical community and related agencies contributed to the emergency rule which was put into effect after a recent avoidable heat-related death took the life of an agricultural worker; and just prior to the onset of an early, hot summer forecast for Washington. Awareness campaigns that were promoted with the emergency rule changes didn't reach job sites employers and co-workers to recognize in time a young co-worker's symptoms to stop the heat's inevitable destruction of his body. Unfortunately, The Department's efforts on this subject have been ridiculed publicly with little regard to the culminating magnitude affected on the human body in continuous hard work in the heat and sun. Most workers function in conditions that allow healthy, controlled temperatures and protection from continuous extreme exposure to heat and sun for the duration of their work day. Building Trades Affiliates in the Construction Industry, and our neighbors who work in agriculture, fire fighting, fishing, long shore, landscape and maintenance, airport ground control, etc., work extended hours in the sun without the luxury of rest in a controlled environment. L & I Director, Schurke has acted responsively to address these avoidable	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		deaths. The department has not lost sight that when workers are continuously exposed to heat stress without relief; it can contribute to other job-related accidents and injury. One thing is certain through the debates about whether our climates are changing; heat stress death can be avoided if the human body is allowed proper care while working in such harsh conditions. Opponents of this measure should volunteer to spend one shift in the boots of their neighbor's, who work hard without adequate protection from the heat, sun or inadequate good water, before they're allowed to suggest the level of necessary shade, water and rest that should be defined in rule. Common sense dictates that avoidable lost lives require increased education and updates on preventive actions to curtail heat stress injury and death. The comment period is open for several more meetings before the final rewrite is adopted by the Department in time to better prepare for rising summer temperatures. At that point, remaining critics should be invited to join us April 29th this year at the Worker's Memorial Bell Remembrance Services to shore up hurting families struggling to survive the recent loss of their loved one to witness the senselessness of minor complaints in view of the tragic loss of an avoidable death.	
General – In favor	Glenn Willman Laborers' Local 791	I am the Business Manager of Laborers Local 791. This is e-mail is to convey my full support of L&I's proposed workplace rules to protect workers from the dangers of heat-stress and heat related injuries and possible fatalities when work is performed outdoors in hot weather.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Jeff Washburn, Business Agent Plumbers & Steamfitters, Local 26	My name is Jeff Washburn and I am currently the Business Agent for local 26 Plumbers and Steamfitters. I am writing in support of L&I's proposed workplace rules to protect workers from the dangers of heat stress. Last year in Centrailia at the steam plant we were working in temperatures between 120 and 140 degrees F. We had a man go down because of heat stress and the company instituted a heat stress program. This included a cool down area, plenty of liquids (including electrolytes), monitoring of body temp, monitoring of blood pressure and monitoring our pulse. We adjusted our time in and out of hot zones by the readings were getting from above mentioned together with the hot zone temp. If our guys vitals didn't stay within the parameters of our heat stress program they were burnt out for the day. Between the time we started our heat stress program and actually got it up to full speed we had other incidences happen to people that re-affirmed we were doing the right thing.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In	John Kearns OPCMIA Local	I am the Business Manager of Cement Masons & Plasterers Local 528. This is e-mail is to convey my full support of L&I's proposed workplace rules to protect workers from the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
favor	528	dangers of heat-stress and heat related injuries and possible fatalities when work is performed outdoors in hot weather.	
General – In favor	David Myers IBEW Local 970	I'm writing you as the Business Manager for the International Brotherhood of Electrical Workers, IBEW Local 970 in Longview Washington. This e-mail is to express my full support of Labor and Industries proposed workplace rules to protect workers from the dangers of heat-stress and heat related injuries and possible fatalities when work is performed outdoors in hot weather.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Keith Kordenat Ironworkers Local 29	I am an Apprenticeship Instructor for Ironworkers Local 29.This is e-mail is to convey my full support of L&I's proposed workplace rules to protect workers from the dangers of heat-stress and heat related injuries and possible fatalities when work is performed outdoors in hot weather.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Phillip L. Dines U.A. Local 26	I am the Business Manager for Plumbers and Steamfitters, Local Union 26. This e-mail is to convey my full support of L&I's proposed ruling to protect workers from the dangers of heat stress and other associated injuries. As a Journeyman Steamfitter, I understand the importance of what is it at stake. My members are often subjected to working in hot and humid environments and this decision will directly affect my trade and possibly could prevent an unforeseen fatality.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Brad Moore Plumbers & Pipefitters Local 32	I'm an Organizer for Local 32, Plumbers & Pipefitters and I wish to send you a quick note letting you know that I fully support the new heat stress rules that L&I is proposing, and I hope we can pass these rules to help protect workers in the state.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Timothy P. Downes U.A. Local 26 Plumbers & Pipefitters	I am the business agent at U.A. Local 26 Plumbers & Pipefitters. This e-mail is to let you know that I am in full support of L&I's proposed workplace rules to protect workers from the dangers of heat-stress and heat related injuries and possible fatalities when working outdoors in hot weather conditions.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In favor	Paul F. Blaski United Union of Roofers, Waterproofers and Allied Workers, AFL-CIO	I am the International Representative of the United Union of Roofers, Waterproofers and Allied Workers, AFL-CIO for the Northwest and a former roofer and resident of Washington state. This e-mail is to convey my full support of L&I's proposed workplace rules to protect workers from the dangers of heat-stress and heat related injuries and possible fatalities when work is performed outdoors in hot weather.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
General – In	Warren Johnson	On behalf of Local 76-493, AFM I want to register our support for the proposed administrative rules regarding heat-related illness (HRI).	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
favor	Local 76-493, AFM	As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) • The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand.	

WAC Section	Commenter	Comment	DOSH Response
		Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Jeff Johnson Washington State Labor Council, AFL-CIO	On behalf of The Washington State labor Council, AFL-CIO, I want to go on record supporting the proposed Heat Related Illness (HRI) Rules. While we wish that rules had gone a bit farther with regards to defining "cooling areas" and requiring that rest breaks be taken in the cooling areas, that L&I specify the temperature of the water that is provided to the workers, and that finally some one certified in first aid make the determination that a worker is suffering from heat related illness symptoms, we nonetheless support the rules as a vast improvement in worker and employer safety. The additions to the rules that we suggest, I believe are feasible and would help send the message that HRI is a serious issue but one that can be easily avoided with simple measures. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place, employers actually followed these common sense rules, and L&I had the ability to enforce the rules. Opposition to the rules has been raised by the business community in the form of making the claim that the rule is not really necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. If we only look at workers' compensation claims as a measure of the degree of the problem that exists we are seriously missing the forest for the trees. . The rules that you are proposing are simple and fair: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker) • The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs of heat stress (e.g., rest in shaded areas, misting stations, etc) and to monitor	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		worker to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. I want to suggest again that the rules would be even better if you tightened them up by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), that all training be done in a language that the supervisors and workers understand, and that qualified and trained personnel make the HRI determination so that we can seriously reduce the amount of HRI this summer. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	Tina Morrison Local 105, AFM	On behalf of AFM Local 105 I want to register our support for the proposed administrative rules regarding heat-related illness (HRI). As you know, April 28 was Workers' Memorial Day. A day to remember those workers who died the previous year due to workplace injuries and illnesses and a day to recommit ourselves to protecting workers from danger at the workplace. We have heard the business community make arguments that the rule is not necessary because there are so few HRI workers' compensation claims. While it is true that there are relatively few claims that present themselves as HRI, this is because most accidents caused by HRI get categorized as falls that cause breaks, abrasions and strains. As a result the true extent of the problem is underestimated. But what we do know for sure is that out door heat stress is debilitating and can be a killer. Three heat related deaths have occurred in Washington State since 2005 in the agricultural and construction industries. Over this period of time heat related deaths have occurred in Oregon and California as well. The tragedy of this is that all of these deaths could have been prevented if clear and simple rules were in place and employers actually followed these common sense rules. The rules that you are proposing are simple: • The employer is required to provide an adequate amount of potable water (about a quart of water an hour per worker)	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		• The employer is required to have a written plan and procedures to reduce risks of heat-related illness (evaluating temperature and humidity levels that can trigger HRI, providing adequate rest breaks, and encouraging frequent consumption of water). • Provide worker with the means to reduce body temperature when there are signs of heat stress (rest in shaded areas, misting stations, etc) and to monitor worker to determine whether medical treatment is necessary. • Provide sufficient information and training to both workers and supervisors on the risks of HRI and how to deal with signs of HRI when they occur. We would only suggest that you tighten the rules up a bit by requiring that the water remain at a cool temperature (rather than hot or cold), that all rest breaks during the hot weather season be provided for in a shaded area (which could be provided for by an open-sided tent), and that all training be done in a language that the supervisors and workers understand. Thank you for your attention to these rules. Summer is nearly upon us and we should not tolerate any more heat related deaths in our agricultural and construction industries.	
General – In favor	David Johnson Washington State Building and Construction Trades Council	I am here representing the Washington State Building and Construction Trades Council as the executive secretary and we strongly support and urge the department to move forward with the adoption of these rules. Workplace illness, injury, and death caused by overexposure to heat stress and sun is a genuine concern for the building trades industry and other professions who spend considerable time working outdoors and indoors in environments so hot that illness, injury, and death occur as a result. Exposure and deaths are avoidable when proper education and prevention measures are taken. The fact that any deaths are occurring is proof that increased awareness and early action is appropriate as addressed by the department in this rule update to inform employers, employees, and the general public. We commend Labor & Industries and all the stakeholders who have deliberated over the past several months to update heat stress rules. This update is long overdue to improve and protect workers from exposure to heat exhaustion, illness, and avoidable deaths due to excessively hot working environments. Furthermore, it is important to recognize, as Jeff said, that eliminating exhaustion and	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
		exposure to extended high temperatures guards against other injuries and mistakes when judgment and ability are impaired due to the onset of heat exhaustion symptoms. They don't always quantify themselves in heat exhaustion. There are other workplace incidents that take place and accidents that take place in the onset of heat stress. These progressive changes to the rules protect workers through education, awareness, prevention, and preventative action and emergency aid response. Summer is on us now. It is time to end the debate, adopt the rules, and begin educating employers, employees, and the general public and to eliminate heat stress in the workplace. Again, we commend the completed rule review progress and recommend the final adoption of these heat stress rules as a positive move forward for Washington and its workers. I would also like to request the extension that was previously requested of the comment period to be pushed out to 5:00 p.m. next Wednesday. And, you know, it just seems to me that from the perspective of having sufficient water at a temperature that is drinkable, having someplace for a worker to cool off when they are working in these excessive conditions and educating the public and the employers, as well as the employees, are not only rational but necessary steps that have to be taken to protect the workers in the State of Washington.	
Specific Recommendations on the Proposed Rule Language			
296-62-09510	Mike Thompson Spokane Valley Fire Department	The Spokane Valley Fire Department would like to go on record to express our opposition to the new proposed section of WAC 296-62-09510, heat related illness in the outdoor environment. Table 1 in your proposed revision that uses “turnout gear” as example would negatively impact our ability to perform routine and emergency duties. Currently, we must follow WAC 296-305 02001, 07003 and NFPA Standards on protective clothing for structural and wildland firefighting. We don’t need a separate WAC 296-62-09510 on heat related illness that prohibits our ability to effectively perform our job and the existing WAC 296-305 provides the necessary requirements to protect our firefighter’s health and welfare. I have reviewed the joint letter from the Washington Fire Commissioners Association and Washington Fire Chiefs and fully support their recommendations.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to “turn-out gear” in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness.
296-62-	Brian Schaeffer	The City of Spokane Fire Department would like to state, for the record, that the Fire	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
09510	Spokane Fire Department	Service should be exempt from the new proposed section of WAC 296-62-09510, heat related illness in the outdoor environment. We feel that WAC 296-305 addresses the appropriate rehabilitation of members operating at emergency scene. It is difficult and impractical for organizations such as ours to reference other mandated standards that deal with Firefighter Safety outside of the Fire Service's primary vertical-safety standard. The SFD is currently in the process of participating with the existing 296-305 Stakeholders Committee in the review process and would highly recommend to the Department of Labor and Industries to exempt the Fire Service from 296-62-09510 and focus on the current improvements to 296-305.	concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to "turn-out gear" in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. The Department will coordinate rulemaking activity on chapter 296-305 WAC with WAC 296-62-095.
296-62-09510	Roger Ferris Mike Brown Washington Fire Commissioners Association Washington Fire Chiefs	The Washington Fire Commissioners Association and Washington Fire Chiefs would like to state, for the record, its concerns with the new proposed section of WAC 296-62-09510, heat related illness in the outdoor environment. We request that the new section be amended as follows: Table 1: Delete specific reference in column 1 to "work clothes vapor barrier e.g. encapsulating suit or turnout gear". Explanation. Our occupational requirement is to wear layers of personal protective clothing while performing routine and emergency duties depending upon the situation. We must follow WAC 296-30502001,07003 and NFPA Standards on protective clothing for structural and wildland firefighting. Any protective ensemble may impair the release of body heat. Emergency situations may require prolonged work periods with exposure to radiant heat or direct sun. Often, relief in the form of rest breaks or shade are not options; therefore, we cite the National Fire Protection Standard 1584, and the U.S. Fire Administration Emergency Incident Rehabilitation Standard Operating Procedures which identify rehabilitation guidelines addressing heat stress under our occupational requirements. Section (4): Add additional language as follows: "Employers who provide fire protection services must comply with WAC 296-305 and, unless otherwise provided, follow WAC 296-62-09510."	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to "turn-out gear" in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. Fire service employers who follow the rehabilitation recommendations in NFPA 1584 or the U.S. Fire Administration Emergency Incident Rehabilitation Standard would be in compliance with WAC 296-62-095. The NFPA and U.S. Fire Administration standards are more protective of employees by requiring longer more frequent rest breaks, requirements for water consumption, and medical evaluation during rehabilitation and prior to release to resume work. WAC 296-62-095 requires that when the temperature action level is met, employers are to provide 1 quart of water to employees per hour and respond to employees demonstrating signs or showing symptoms of heat-related illness. WAC 296-62-095 does not require employers to provide additional rest breaks or shade.
General	Roger Ferris Mike Brown Washington Fire Commissioners	Add to WAC 296-305: "The incident commander at emergency incidents and/or supervisors at emergency training exercises shall provide for members who become dehydrated or show signs of heat related illness with drinking water and relief from climatic conditions. "Employers shall follow as a minimum, NFPA 1584 Recommended Practice on the Rehabilitation of Members Operating at Incident Scene Operations and Training	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department will coordinate rulemaking activity on chapter 296-305 WAC with WAC 296-62-095.

WAC Section	Commenter	Comment	DOSH Response
	Association Washington Fire Chiefs	Exercises. 2003 Edition". Explanation. We cannot overstress to the management of our firefighting resources, the importance of having the full scope and application of the requirements available and accessible in our primary-vertical safety standard WAC 296-305. Direction should be provided to the existing 305 Stakeholders Committee to review and provide supplemental language that addresses heat stress and rehabilitation.	
General	Irven Schick, Capt Stevens Co. Fire Dist. 4	I am a first line officer in a volunteer fire district which responds to fire, rescue and EMS incidents. Our district responds to both structure and wildland fires and follow the rules as prescribed in the applicable WAC and NFPA standards. <u>I agree with the letter from the Washington Fire Commissioners Assn. and the Washington Fire Chiefs.</u> Such regulations that apply to our situation should be in the vertical standards (WAC) for the fire services and should be tailored to our situation. We are very careful about heat stress in our situation, and watch our personnel carefully. Our members are accustomed to being careful and drinking water frequently.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to “turn-out gear” in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. Fire service employers who follow the rehabilitation recommendations in NFPA 1584 or the U.S. Fire Administration Emergency Incident Rehabilitation Standard would be in compliance with WAC 296-62-095. The NFPA and U.S. Fire Administration standards are more protective of employees by requiring longer more frequent rest breaks, requirements for water consumption, and medical evaluation during rehabilitation and prior to release to resume work. The Department will coordinate rulemaking activity on chapter 296-305 WAC with WAC 296-62-095.
296-62-09510	Brian S. Evans, Grant County Fire Districts 10/11	I would like to voice my concerns regarding the proposed new section of WAC 296-62-09510, heat related illness in the outdoor environment. Please consider the Washington Fire Commissioners and Washington Fire Chiefs input regarding this issue. Fire Departments respond to emergency situations which require the use of Personal Protective Equipment (PPE) that more often than not, impairs the release of body heat. Fire Departments must follow WAC 296-305 02001, 07003 in addition to NFPA standards, which provide standards on wildland and structural firefighting PPE. Emergency situations often require long periods of work and exposure to radiant heat or direct sun by a limited number of responders due to insufficient budgets, or volunteer response. Often it is impossible to offer relief in the form of rest breaks or shade. NFPA 1584 identifies rehabilitation guidelines unique to our occupation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to “turn-out gear” in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. Fire service employers who follow the rehabilitation recommendations in NFPA 1584 or the U.S. Fire Administration Emergency Incident Rehabilitation Standard would be in compliance with WAC 296-62-095. The NFPA and U.S. Fire Administration standards

WAC Section	Commenter	Comment	DOSH Response
		I know that this is intended for the greater good, however, do not set the emergency responders up for failure by introducing unnecessary and unattainable rules when it comes to emergency operations. Please take the Washington Fire Commissioners Association and Washington Fire Chiefs recommendations on this proposed rule. We rely and depend on our responders and take their safety and well being seriously while also mitigating emergencies which we have no control over. The Fire Service is a unique occupation, no amount of planning can allow us to predict what may happen in the course of a day, when or where. The Chief's and Commissioners proposed changes are a good compromise that should be workable to all parties involved.	are more protective of employees by requiring longer more frequent rest breaks, requirements for water consumption, and medical evaluation during rehabilitation and prior to release to resume work.
296-62-09510	Dale Fulfs North County Fire/EMS	I support the letter from the Washington Fire Commissioners and the Washington Fire Chiefs regarding the new proposed section of WAC 296-62-09510 regarding heat related illness in the outdoor environment. Please take these concerns into account.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to “turn-out gear” in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. Fire service employers who follow the rehabilitation recommendations in NFPA 1584 or the U.S. Fire Administration Emergency Incident Rehabilitation Standard would be in compliance with WAC 296-62-095. The NFPA and U.S. Fire Administration standards are more protective of employees by requiring longer more frequent rest breaks, requirements for water consumption, and medical evaluation during rehabilitation and prior to release to resume work.
296-62-09510	Chief Dennis Ashmore	To whom it may concern, the subject of rehabilitation is well covered by NFPA 1584 as well as other standards in the WAC code. I do not totally agree with all of the proposals but I believe that NFPA 1584 is the most workable solution at this time.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations. The reference to “turn-out gear” in WAC 296-62-095 is to clarify that heavy PPE can make employees more susceptible to heat-related illness. Fire service employers who follow the rehabilitation recommendations in NFPA 1584 or the U.S. Fire Administration Emergency Incident Rehabilitation Standard would be in compliance with WAC 296-62-095. The NFPA and U.S. Fire Administration standards are more protective of employees by requiring longer more frequent rest breaks,

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			requirements for water consumption, and medical evaluation during rehabilitation and prior to release to resume work.
296-62-09510	Miland Walling Dist. #2 Klickitat County	I would like to express my concerns of section WAC296-62-09510 on heat related illness. Fire Depts. Need to stay or follow WAC 296-305 02001, 07003.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Chapter 296-305 WAC does not address all of the components of WAC 296-62-095. Chapter 296-305 WAC and the required elements of the NFPA 1975 only requires that appropriate PPE be worn during structural and wildland firefighting operations.
296-62-09510	Don Foster Commissioner Fire 9 Spokane County	As a commissioner in a Fire District with Paramedics and EMTs it will require their judgment in fighting Fires. With their take out gear and fighting fire inside burning homes will need good judgment. There will always be a heat illness risk in fighting fires. Request they be excused from this requirement as it may interfere with saving lives.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes that most fire rescues occur within a short duration time after arrival to the fire. Given water is provided, it is unlikely that heat-related illness response requirements would apply after a short exposure to the hazard. The requirements of WAC 296-62-095 would not interfere with rescue operations.
296-62-09510	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	WAC 296-62-09510 - does not apply to agriculture. This WAC is 296-62 and not included in one manual for agriculture. The legislature requires all safety rules to be in one manual.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. RCW 49.17.041 requires the department to establish an agricultural safety rule that includes two parts: 1) agricultural-specific rules for agricultural employers; and 2) specific references to the general industry safety rule adopted under RCW 49.17. It requires that agricultural employers are to be exempt from the general industry safety rule adopted under RCW 49.17 for all rules not specifically referenced in the agricultural safety rule. Currently, the agricultural safety rule, WAC 296-307, specifically states agricultural employers are covered by the requirements of chapter 296-62 WAC. However, the Department does not object to placing the requirements of WAC 296-62-095 into chapter 296-307 WAC during a separate rulemaking effort.
296-62-09510	Will Laugle	What I would like see is a rule for people who have to work indoors around heat. I work at the Everett Paint Hangers, and we get up to 120 degrees. It can be hard on a body when you get throne in that environment before it gets cool.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment.
296-62-09510	Carl Gipson Washington	There remains significant ambiguity, especially in the “Scope and purpose” section that states that employers should “implement workplace practices designed to reduce to the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

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(1)	Policy Center	extent feasible the risks of heat-related illnesses. . ." Employers may construe that "to the extent feasible" carries and impression of uncertainty.	The Department has removed the language "to the extent feasible" from the rule.
296-62-09510 (1)	Jim Bjorkman M and M Transport, Inc.	It requires employers to implement workplace practices designed to reduce to the extent feasible the risks of heat related illness resulting from outdoor exposure to temperature, humidity and other environmental factors, or any combination thereof. Please define to the extent feasible.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has removed the language "to the extent feasible" from the rule.
296-62-09510 (1)	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	I would like to take a moment to commend the department for its efforts to develop a rule that meets the needs of all industries when it comes to protecting employees exposed to working in the heat of the day. I firmly believe and will work with our member to help them protect their workers when it comes to HRI, but to adopt a safety regulation where farmers have to become fashion police and go out and see what workers are wearing to help them decide what triggers the rule is beyond "feasible".	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has removed the language "to the extent feasible" from the rule.
296-62-09510 (1)	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	L&I requires employers to implement workplace practices to the extent "feasible", but how can an employer be feasible with a rule that lends itself to subjection by inspectors if they feel something was not included to their satisfaction. When you put the word other – it leads to the fact that more can be included in the program.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has removed the language "to the extent feasible" from the rule.
296-62-09510 (1)	Wayne Brokaw Inland Northwest AGC	WAC 296-62-09510 Scope and purpose. (1) WAC 296-62-095 through 296-62-09560 Issue: It requires employers to implement workplace practices designed to the reduce to the extent feasible the risks of heat-relate illness resulting from outdoor exposure to temperature, humidity, and other environmental factors or a combination thereof', QUESTION: "Extent feasible" this is subjective and open for interpretation. QUESTION: "Other environmental factors" - For example? QUESTION: "Any combination thereof" - Of what? PROPOSED SENTENCE: It requires employers to implement workplace practices designed to reduce the risks of heat related illness resulting from out door exposure. Reasoning: Work varies from jobsite to jobsite, north side of building vs. south side of building, section of the State you are working in, etc., and we do not need subjective and open for interpretation language that doesn't clarify. Just state that the employer is to implement workplace practices designed to reduce the risks of heat related illness resulting from outdoor exposure, period.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The language in question has been removed from the rule.

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296-62-09510 (1)	Carl Gipson Washington Policy Center	There remains significant ambiguity, especially in the "Scope and purpose" section that states that employers should "implement workplace practices designed to reduce to the extent feasible the risks of heat-related illnesses. . ." Employers may construe that "to the extent feasible" carries and impression of uncertainty. Many of the Department's preventative methods to combat HRI are already in use among private sector employers. The Department should encourage employers to focus on educating their workers on the danger of heat exposure and the importance of remaining hydrated. This would help alleviate concerns about the ambiguity of some of the regulations – after all, how can an employer determine how to "reduce to the extent feasible" a potential HRI complication?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The language in question has been removed from the rule.
296-62-09510 (1)	Wayne Brokaw Inland Northwest Associated General Contractors	Dealing with your draft, I want to go to 296-62-09510, Scope and Purpose, Section 1. It requires employers to implement workplace practices designed to reduce to the extent feasible the risk. Now, the phrase, to the extent feasible, that's subjective, left for interpretation. I don't think that wording needs to be in there. It says from outdoor exposure to temperature, humidity -- and then we come to the phrase, other environmental factors or any combination thereof. That plays no role in dealing with heat stress. I just think the sentence could just say that it requires employers to implement workplace practices designed to reduce the risk of heat-related illness resulting from outdoor exposure, period.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The language in question has been removed from the rule.
296-62-09510 (2)	Candelaria Murillo Columbia Legal Services	§296-62-09510 Table 1: (a) What data did L&I rely on in proposing this table? (b) Does the table somehow factor in humidity and work intensity?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical

WAC Section	Commenter	Comment	DOSH Response
			Hazards Committee to develop a temperature action level that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html. The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee's clothing or PPE was determined as a result of Dr. Bernard's research. This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point. The WBGT formula is as follows: With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$ Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$ T_w= Natural wet-bulb temperature (humidity indicator) T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation) T_d=Dry-bulb temperature (normal air temperature)
296-62-09510	Wayne Brokaw Inland Northwest Associated General Contractors	Then I go to Table 1. It says there, "The trigger temperatures in Table 1 are based on a dew point of 50 degrees Fahrenheit and were developed for use by the state of Washington." I would like to see the data and where that came from in developing this table. And the table doesn't address, as the WRD did, the health factors. The health factors in the WRD are not anywhere in this rule that I can find, and I think that was an interesting part of the WRD that we addressed the health factors.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department tried several approaches for trigger temperatures throughout the development phase of the rule. The Wet-Bulb Globe Thermometer (WBGT) method was developed by National Institute of Occupational Safety and Health (NIOSH), the research agency to the Occupational Safety and Health Administration (OSHA). This method is the accepted standard of heat
296-62-	Wayne Brokaw	Issue: Table 1-To determine the temperature trigger.. ",..direct sun or the shade	

WAC Section	Commenter	Comment	DOSH Response
09510	Inland Northwest AGC	QUESTION: Note says it is based on a dew point of 50 F and were developed for use by the State of Washington -What is the scientific data supporting this table? WRD discussed health factors, etc., why are they not listed here?	measurement and promoted by ACGIH (American Conference of Governmental Industrial Hygienists). However, this approach requires employers to take a series of measurements and conduct calculations to assess their worksites. The Department determined early on that this approach was not feasible because of the complex calculations and specialized equipment. Nonetheless, stakeholders requested a trigger to provide clear direction when the different elements of the rule would apply. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical Hazards Committee to develop a temperature action level that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html. The work rate is based on 300 watts. This is considered a moderate level of work; however, Dr. Bernard believes that this is the highest level of work the average person can sustain for an 8-hour workday. The variation of trigger points related to an employee's clothing or PPE was determined as a result of Dr. Bernard's research. This approach allows for assessment of the environmental factors (including clothing and work rate) and only required the employer to identify the air temperature. It is based on a rigorous scientific process specifically designed for Washington State's dew point. The WBGT formula is as follows: With direct exposure to the sun: WBGT = $0.7T_w + 0.2T_g + 0.1T_d$ Without direct exposure to the sun: WBGT = $0.7T_w + 0.3T_g$ T_w= Natural wet-bulb temperature (humidity indicator) T_g=Globe thermometer temperature (measured with a globe thermometer, also known as a black globe thermometer, to measure solar radiation) T_d=Dry-bulb temperature (normal air temperature) The WRD included the heat index chart which correlates temperatures to health factors.

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			This chart was developed by the National Weather Service for purposes of assessing comfort (similar to the wind chill factor).
296-62-09510	Jay Herzmark Washington Federation of State Employees, Local 1488	WAC 296-62-09510 Scope and purpose Table 1 does not explain what to do when the dew point (or relative humidity) varies from 50 degrees F. Instead of this table, we suggest using the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value for heat stress and heat strain. It is widely used and is cited in the OSHA Technical Manual under Heat Stress. Federal OSHA already uses it for guidance on how to cite employers for violations of their General Duty Clause.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department worked with Tom Bernard, Ph.D., Chair of the ACGIH Physical Hazards Committee to develop a temperature action level that would apply to Washington state. This was accomplished using the WBGT method. In reviewing the Washington state dew points (a measurement of humidity) for four cities (Vancouver, Seattle, Yakima, and Spokane) from the summer of 2007, Dr. Bernard identified a pattern that could be extrapolated to Washington state. Using this dew point and information available from Dr. Bernard's research, Dr. Bernard was able to use the WBGT equation to develop a temperature threshold limit value (TLV) or trigger point. For information on this is available at http://personal.health.usf.edu/tbernard/thermal/index.html. Table 1 assumes a dew point of 50ºF for the purpose of establishing the trigger temperatures. The formula for developing the trigger temperatures considers several factors in addition to the dew point. The formula was designed using the ACGIH recommendations. Use of the ACGIH method is not practical for most employers to apply. The Department believes that the use of Table 1 developed in conjunction with Dr. Bernard is the most effective and practical approach.
296-62-09510	Candelaria Murillo Daniel G. Ford Columbia Legal Services	We support L&I's earlier draft proposal which included the trigger dates of May 1st through September 30th. Trigger dates provide more clarity and are less burdensome than taking into account the factors in table 1. Compliance is straightforward and focused on those months when workers are more susceptible to HRI. Our alternative proposal would cover all employers with one or more employees performing work in an outdoor environment from May 1st through September 30th and require those employers to provide drinking water and cooling areas during regular rest breaks only during that time period. A 2007 L&I Washington State Weather Analysis (attached) showed that the months of May 1st through September 30th had temperatures of 89°F or above statewide. The L&I SHARP Study found that between 1993 and 2004 over 83% of HRI claims occurred between May through September. A study conducted in 2004, by the Western Regional	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to apply the requirements of WAC 296-62-095 from May 1 to September 30 annually when the temperatures meet or exceed the triggers listed in WAC 296-62-09510. Given the research used to develop the temperature action levels, the Department believes that the trigger temperature approach in conjunction with the specified time period is the most reasonable and evidence-based approach. The heat index chart was developed by the National Weather Service for purposes of

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		Climate Center, found that 90°F+ temperature occurred from May through September in various regions of Washington State. Temperature starting at 91°F is characterized as "Extreme Caution" regardless of relative humidity, which can cause heat cramps and heat exhaustion (in high risk groups) and with prolonged exposure and/or physical activity it can easily escalate into heat stoke. Further, DOSH uses the heat index rating of 80 (which would occur at 80 degrees F. and 40% humidity) as a trigger for assessing whether HRI hazards are present. The heat index chart classifies 80.	assessing comfort (similar to the wind chill factor).
296-62-09510	Candelaria Murillo Columbia Legal Services	I want to quickly touch on the trigger issue. In the absence of further explanation or definition for the trigger, since some parts of it do seem to be a little vague and essentially subjective, another recommendation that was made by L&I when we initially started to work on heat-related illness was the trigger point of dates from May to September. That seems to be a clearer trigger, easier to follow, May 1st through September 30th. A study from the Washington Regional Climate Center finds that 90 degree plus temperatures occur from May through September, as well as the SHARP study which found that 83 percent of HRI claims occurred between May and September.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to apply the requirements of WAC 296-62-095 from May 1 to September 30 annually when the temperatures meet or exceed the triggers listed in WAC 296-62-09510. Given the research used to develop the temperature action levels, the Department believes that the trigger temperature approach in conjunction with the specified time period is the most reasonable and evidence-based approach.
296-62-09510 (2)	Mike Remington CIH, CSP, REHS Walla Walla District Safety Office	How does Table 1 address semi-impermeable clothing such as tyvek's? Have they developed trigger points for semi-impermeable clothing such as tyvek's, or are they treating them as double layer clothing.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. For the purpose of WAC 296-62-095, Tyvek material will be considered impermeable which meets the definition of “vapor barrier.”
296-62-09510	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	This section also must require the employer to define “summer clothes over coveralls”, vapor barrier suits, tour out gear, etc. what hour of the day they work in shade or sun and what the temperature may be. This is not feasible.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Table 1 has been simplified to only require the employer to obtain the air temperature and consider any PPE the employee is wearing. In addition, definitions have been developed to clarify the “vapor barrier” and “double-layer woven clothes” categories.
296-62-09510	Allison Clark Right Way Plumbing, Heating, A/C Inc.	The proposed rule is not clearly defined. The triggers that are defined can change throughout the day and will be impossible to monitor constantly. I see that there is a need to protect our employees from the heat in a reasonable manner and we do intend to comply, but the rules must be clearly defined to make it easier to implement the plan. Keep working toward a solution that will help rather than hinder businesses and the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule is designed to provide broad protection to employees. The Department believes that it would be burdensome to employers to require employers to consistently

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		employees.	monitor workplace microclimates. Reasonable application of the rule protections will result in an overall reduced risk of employees experiencing heat-related illness symptoms.
296-62-09510	Chris Voigt Washington State Potato Commission	One that I kind of brought up in the question period is the definition of ambient air. I think that needs to be clarified in the rule to show that micro-climates are not included in that. You know, if the newspaper says it's going to be 85 degrees today, but then you have a couple of employees who might be working on blacktop or next to large concrete structure, obviously that's a micro-climate that you can't anticipate as to what the temperature will be. And also wind has a factor in that too. So a further definition clarifying that would be helpful.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule is designed to provide broad protection to employees. The Department believes that it would be burdensome to employers to require employers to consistently monitor workplace microclimates. Reasonable application of the rule protections will result in an overall reduced risk of employees experiencing heat-related illness symptoms.
296-62-09510 (2)	Jim Bjorkman M and M Transport, Inc.	The TABLE 1 temperature trigger requires the employer to know the type of work clothes, in the sun or in the shade. The trigger temperature table is based on a dew point of 50 degrees. What if the dew point changes during the day? How does this affect the temperature trigger? What type of temperature measuring equipment is acceptable?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule is designed to provide broad protection to employees. The Department believes that it would be burdensome to employers to require employers to consistently monitor workplace microclimates. Reasonable application of the rule protections will result in an overall reduced risk of employees experiencing heat-related illness symptoms.
296-62-09510 (2)	Todd Kunzman Andgar Corporation	There are different trigger points based on what people are wearing. You can have two people on a roof working, and one of them is wearing a sweatshirt and one isn't, and you have two different trigger points. How is someone supposed to manage that?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the temperature action levels are correlated with the employees required PPE, not the employee's personal clothing choice.
296-62-09510	Randy Dasalla Washington Association of Landscape Professionals (WALP)	Clarification of WAC 296-62-09510 -Table 1. Current directions for using Table 1 state, "Select the type of clothing or PPE the employee is wearing." During discussion at the April 28 meeting in Tumwater, John Furman stated that this referred to clothing required by the employer. Therefore, we believe that statement should be amended to read, "select the type of clothing or PPE the employee is required to wear."	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the trigger temperatures are correlated with the employees required PPE, not the employee's personal clothing choice.
296-62-09510	Stephen M. Serafin Quality Landscapes	WAC 296-62-09510-Table 1- directions for using table 1 state, "select the type of clothing or PPE the employee is wearing". During the discussion at the 28 April meeting in Tumwater, John Furman stated that this referred to clothing required by the employer. The rule needs to be clarified. The statement should read, "select the type of clothing or PPE the employee is required to wear".	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the trigger temperatures are correlated with the employees required PPE, not the employee's personal clothing

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			choice.
296-62-09510	Randy Dasalla Washington Association of Landscape Professionals (WALP)	Given that in many areas of the state the hours when the temperature is *over* 89 degrees are limited, an acceptable plan included in the rule should be to choose not to work during such times. Many companies work flexible schedules to avoid heat. If the employer's written procedure is to send employees home when the temperature reaches the levels described in the rule, he/she should be exempt from further training and other requirements.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Rule language has been updated to apply the requirements of WAC 296-62-095 during the period between May 1 and September 30 annually when the temperature action levels are reached.
296-62-09510	Randy Dasalla Washington Association of Landscape Professionals (WALP)	Clarification provided as to when the rule applies. In many occupations, employees *move* frequently between direct sun, shade, and an air-conditioned vehicle cab or building. For example, an employee drives to a job site in an air-conditioned vehicle, upon arrival he works in direct sun for fifteen minutes, then *moves* to a shaded area for fifteen minutes, then gets back in the air-conditioned vehicle to drive to another site. The temperature is 90 degrees. When is the rule in effect?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the rule does not apply to air-conditioned vehicle cabs. Employees who are inside a building for 45 minutes or more during the hour are exempt from this rule. The hazard of heat-related illness is eliminated by the use of air-conditioning. As a result, the rule would not apply to time spent in an air-conditioned vehicle. The requirements of WAC 296-62-095 apply to employees who are outside for 15 minutes or more during the hour.
296-62-09510	Stephen M. Serafin Quality Landscapes	In many occasions, employees move frequently between direct sunlight, shade, and an air-conditioned vehicle cab or building. How is the employer to determine when the rule should apply? For example, 3 employees drive to a job site in an air-conditioned truck and upon arrival, work fifteen minutes in direct sunlight, move into shaded areas for another 15 minutes, and then return to the air-conditioned truck to move onto another jobsite. The temperature is 90* fairenheit. Is the rule in effect?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clarify that the rule does not apply to air-conditioned vehicle cabs. Employees who are inside a building for 45 minutes or more during the hour are exempt from this rule. The hazard of heat-related illness is eliminated by the use of air-conditioning. As a result, the rule would not apply to time spent in an air-conditioned vehicle. The requirements of WAC 296-62-095 apply to employees who are outside for 15 minutes or more during the hour.
296-62-09510 (2)	W. Michael Threlfall City of Spokane	The new standard does not take into account, “activities.” I have Parks & Recreation Department employees that sit outside and watch children play and I have Streets Department employees that work with 300 to 350 degree asphalt. According to the new standard there is no difference between the two. This also relates to a comment made by another attendee regarding Fire Fighters. They are exposed to much higher temps. Should there be a maximum temperature? An example that was given talked about a training episode in which Fire Fighters were required to practice an exercise in warm temperatures wearing their full turn-out gear. One or more Fire Fighter suffered a heat related event as a result of this exercise.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Occupational safety and health rules provide the minimum protection that should be afforded to employees. In the event a hazard not specifically addressed by a safety and health regulation is present at the work site, the general duty clause/safe place standard requires the employer to address the hazard.
296-62-	Michael	Per WAC 296-62-09510 (2) the employer is to determine based on the temperature range	The Department appreciates the time taken to provide this comment and recognizes the

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09510 (2)	Quattro, CSP Parsons Construction Group Safety Manager.	provided in table 1 when the regulation would apply. The comment concerning Table 1 is that it does not allow for the work load of the employee. There should be some method to calculate calometric burn rate based on the temperature, humidity, and type of clothing used, to trigger the application of the regulation. I would recommend a system similar to what the ACIGH recommends in their guidance on dealing with heat stress. By the existing requirements I could have someone sitting on a tractor all day that could potentially be exposed to temperatures above 89 degrees, and I would have to train him, etc. even though the likelihood of heat stress would be greatly reduced because of the low caloric burn rate of sitting and driving all day vs. shoveling in an excavation.	concerns and opinions presented. The temperature action levels in Table 1 have been developed by factoring in a moderate work rate of 300 watts. Occupational safety and health rules provide the minimum protection that should be afforded to employees. In the event a hazard not specifically addressed by a safety and health regulation is present at the work site, the general duty clause/safe place standard requires the employer to address the hazard.
296-62-09510	Wayne Brokaw Inland Northwest AGC	Issue: Table 1-To determine the temperature trigger.. ",..direct sun or the shade QUESTION: Looking at Table 1, one could determine that if the temperature was not 89, you don't need to be doing all these things! QUESTION: One works in the sun and the shade within seconds. For example: The north side is shaded but the south side is direct sun. Where does the OR fit? QUESTION: The employer is now going to select the clothing an employee is wearing? Since when is this the employers responsibility to tell an employee what he/she is to begin wearing for clothing to work?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated to clearly state that the requirements of WAC 296-62-095 apply when the temperature action levels have been met between May 1 and September 30. The rule language in Table 1 has been updated and has removed the distinction between direct sun and shade. The rule language has been updated to clarify that the trigger temperatures are correlated with the employees required PPE, not the employee's personal clothing choice.
296-62-09510	Doug Lydig Lydig Construction	I think we have heard some good testimony, and I just want to take a couple of minutes to point out a few things, one that I think hasn't been touched on yet, but obviously is going to impact everybody that has a compliance officer come around, and that is the subjectivity to how they are going to interpret and enforce the rule. Who is going to determine what the temperature is when that compliance officer comes out on site? Is that by the weather service? Is that by something that's indicative that's supplied at the job site? I'd like to see how the Department is going to clarify that. Table 1 is way too indescriptive for us to interpret how the Department is going to view that, not only with compliance but with consultation. One compliance officer's interpretation of it may be different than another's upon that visit. I think that's way too vague.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language in WAC 296-62-09510 provides general guidance on monitoring the temperature in order to allow the employer to select the method that is most appropriate for their worksites.

WAC Section	Commenter	Comment	DOSH Response
296-62-09510	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	We do have one particular question was raised and I don't see it in the rules, but our mobile workforces, how are they effected by these rules, how are we effected by these rules in relation to our mobile workforces, and request that they potentially be exempt from these rules because they are not in a situation where what some of the challenges have been talked about. As I look at the rules -- of course this applies to employers with one or more employees. I guess I am a little concerned about that because I employ my wife in one of my businesses. So I hope I am not covered by these rules, but I take good care of her, give her air-conditioning whenever I can. But it applies to everybody. So when you go to Table 1 it is really just temperatures. Pretty simple. But then I guess I wonder whose temperatures. I mean, maybe in these documents I will find -- and I haven't read them, I have got to confess to that -- I will find out who has to buy the thermometer and who has to keep it calibrated and whose thermometer counts. Is it our thermometer? Is it the supervisor's thermometer? Is it the department's thermometer? Or is it hopefully the bank thermometer across the street that we can look over and say whether we hit this magic number. We certainly want to be as safe as we can. We don't know if there is some criteria or something out there or some industry that's really having a challenge. I guess I don't think ours is and we don't think these rules are necessary at this time.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language in WAC 296-62-09510 provides general guidance on monitoring the temperature in order to allow the employer to select the method that is most appropriate for their worksites.
296-62-09510	Wayne Brokaw Inland Northwest Associated General Contractors	Table 1 you say, "To determine the trigger temperature." You know, we have a lot of people that we train all year long, year in and year out, to become more knowledgeable of the WACs, the RCWs, et cetera, on issues of safety. When you use the word temperature trigger, how many people know what temperature trigger means, other than the person who drafted this language who was probably an attorney not involved in safety.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has clarified the rule to reflect that certain action is required when the ***temperature action levels*** of Table 1 are met or exceeded.
296-62-09510	Wayne Brokaw Inland Northwest Associated General Contractors	And then it says "select the type of clothing or PPE the employees is wearing." Now, I don't know about you, but I don't know how I could go tell an employee that we think the temperature might be 89 degrees tomorrow and this is the clothing you better wear or I'm going to send you home. I don't think employers are in a position to take and select the type of clothing an employee is going to be wearing to work. It's unenforceable. And again, what purpose does it fit? Then it goes on to say, "and whether the work is being performed in the direct sun or in the shade." Well, you know, on the south side I'm in the sun and on the west side I'm in the shade, and I'm working on both sides. One side is 87 degrees and the other side is 91 degrees. I just threw that in as an example. We're working in both areas, and we're not	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language in Table 1 has been updated and has removed the distinction between direct sun and shade. The rule language has been updated to clarify that the temperature action levels are correlated with the employees required PPE, not the employee's personal clothing choice.

WAC Section	Commenter	Comment	DOSH Response
		going to take something off when he go around where it's below 89 -- I mean take something off where it's 91, and then go around the corner and put something back on because I don't have to comply with the rule because it's under 89 degrees. As I'm reading this, if it's under 89 degrees you don't have to do anything. You don't have to provide water or anything. It's only if it's 89 or above that you have to do things. And again, I know there's other parts within the regulations that do address the issue of water, but I keep asking the Department to go back to simplicity because we're training new people, young as well as old, about the regulations and safety, and when we add all this other stuff, we only add confusion to someone who is trying to learn to do it right.	
296-62-09520	Candelaria Murillo Daniel G. Ford Columbia Legal Services	We support the definitions for acclimatization, drinking water, environmental factors for HRI, outdoor environment, and personal factors for HRI.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
296-62-09520	Candelaria Murillo Daniel G. Ford Columbia Legal Services	We request that L&I add a definition of a "cooling area" consistent with the examples of cooling areas in L&I's proposed WAC 296-62-09550. This will help to clarify the requirements of the rule.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The term “cooling area” is not used in the rule. In addition, the examples used in the proposed WAC 296-62-09550 have been removed from the rule.
296-62-09520	Mary Dickinson Building Industry Association of Whatcom County	There is no explanation in the WAC or even a definition provided of important terms, such as enforcement action or enforcement procedures.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The terms “enforcement action” and “enforcement procedures” are not used in the language of WAC 296-62-095. Information on enforcement procedures is available in the DOSH Compliance Manual. This manual is available by contacting Gerald Franks at (360) 902-6233 or frag235@lni.wa.gov.
296-62-09520 (1)	Jim Bjorkman M and M Transport, Inc.	Acclimatization means the body’s temperature adaptation to work in the heat that occurs as a person is exposed to it. Fancy words that lead to open end interpretation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The term “acclimatization” is defined and only used in the training specification requirements.
296-62-09520 (2)	Gary Smith Independent Business Association	“(2) **Drinking water** means potable water. Water packaged as a consumer product is acceptable.” o This provision, as proposed restricts any water based beverages that may contain electrolytes. Our members have been told by health professionals that it	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has updated the rule to clarify that electrolyte-replenishing beverages

WAC Section	Commenter	Comment	DOSH Response
		is very important for workers working in high heat environments to replace both water and electrolytes, not just water. Many of our members who have workers working in high heat environments do provide them water or beverages with electrolytes. o **<u>We suggest</u>** that WAC 296-62-09520 be revised to read something like the following. You have people on your staff better able to technically perfect this revision. "(2) **Drinking water** means: o Potable water including water packaged as a consumer product o <u>Other beverages intended for human consumption that contains some or all of the following electrolytes; sodium, potassium, calcium, magnesium, chloride, phosphate and sulphate and do not contain more than 15 grams of sugar, zero grams of caffeine, and zero percent of alcohol per eight fluid ounces.</u> We appreciate you considering our suggested revisions here and would appreciate hearing your thoughts about these proposed suggestions.	are acceptable.
296-62-09520 (3)	Randy Dasalla Washington Association of Landscape Professionals (WALP)	Similarly, WALP also requests that the definition of environmental factors in WAC 296-62-09520 #2 be *removed.* If reference to environmental factors as defined in WAC 296-62-09520 #2 is not removed, then we believe that a description of each of the factors (relative humidity, radiant heat, conductive heat, air *movement,* workload severity, and PPE) and how they should be measured is needed to insure compliance.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of "environmental factors…" has been modified to clarify its application; measurement of the factors is not required.
296-62-09520 (3)	Jim Bjorkman M and M Transport, Inc.	Environmental factors for heat related illness includes just about any factor that you can think of or an attorney or government officials can dream up.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of "environmental factors…" has been modified to clarify its application; measurement of the factors is not required.
296-62-09520 (5)	Wayne Brokaw Inland Northwest AGC	(5) Again, Table 1 doesn't list anything	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. This definition has been removed from the rule.
296-62-09520 (5)	Wayne Brokaw Inland Northwest Associated General	Again, number 5 relates back to Table 1. Table 1 doesn't really list anything when you look at the hazards.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. This definition has been removed from the rule.

WAC Section	Commenter	Comment	DOSH Response
	Contractors		
296-62-09520 (6)	Jim Bjorkman M and M Transport, Inc.	Incidental exposure means working less than 15 minutes per hour or less outdoors. Please tell me how an employer is to track this. This rule applies to every hour during the work shift. What happens if an employee starts work at 8 am indoors and goes outside at 8:45 and goes back inside at 9:10 and stays indoors until the end of his shift. Is this in compliance since he was not outside for 15 minutes or more for every hour of the work shift? Or does the 25 consecutive minutes outside make the employee considered to be outdoors and subject to the regulations? What if the temperature trigger occurs at 8:50 am? What if the employee was supposed to start at 8, but was 15 minutes late? What if the employee lunch was 5 minutes long? Does the employer have to check time cards? When does the hour work shift start if the employee took a heat break?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 provides an exemption for employees with incidental exposure. The purpose of this exemption is to exempt employees who may be outdoors intermittently for brief periods of time. Employees who are working outside for more than fifteen minutes are subject to the provisions of WAC 296-62-095. The rule does not require employers to document the amount of time an employer is outdoors.
296-62-09520 (6)	Steven R Smith COL MAMC	(6) Incidental exposure means employees performing work activities in an outdoor environment for a total of fifteen minutes or less in a sixty minute period. This applies every hour during the work shift. Bad idea for loophole. In some heat situations, the work-rest cycles are 15 minutes out of every 60 minutes or less. So, if I get down to less than 15 minutes on a work-rest cycle chart, I would fall out of the reg!!	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 provides an exemption for employees with incidental exposure. The purpose of this exemption is to exempt employees who may be outdoors intermittently for brief periods of time.
296-62-09520 (6)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	It says "incidental exposure," which is -- from our perspective these are important things that only means -- or incidental exposure if an employee is only working in an outdoor environment, because all these rules apply only to an outdoor environment. We work indoors and outdoors, and sometimes in what you might call a semi-environment. "15 minutes." Again, who keeps that stop watch? Are we going to be facing somebody saying that we were -- this guy worked more than 15 minutes, you had him outside there? Are employees going to be pulling out their stop watches and saying, yeah, I was out 15, 16 minutes. I was out 10 minutes. It puts us into a situation that is not helpful. Again, we care about our employees. We care about the safety, if somebody is -- if we observe somebody having a challenge, we are going to set them down. We are going to get them water. We are going to call 911 if it comes to that. But we are concerned about how do we deal with that, who keeps that stop watch?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 provides an exemption for employees with incidental exposure. The purpose of this exemption is to exempt employees who may be outdoors intermittently for brief periods of time. Employees who are working outside for more than fifteen minutes are subject to the provisions of WAC 296-62-095. The rule does not require employers to document the amount of time an employer is outdoors.
296-62-09520 (6)	Candelaria Murillo Daniel G. Ford Columbia Legal	The definition of "incidental exposure" should be amended to exclude employees who perform outdoor work for 10 minutes or less per hour from the protections of this rule. The Environmental Protection Agency suggest that when moderate or heavy work is done under full sun and the air temperature is 85°F, exposure of more than 10 minutes can	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 provides an exemption for employees with incidental exposure. The

WAC Section	Commenter	Comment	DOSH Response
	Services	create HRI hazards.	purpose of this exemption is to exempt employees who may be outdoors intermittently for brief periods of time. The Department developed the 15 minutes of outdoor exposure using the work-rest regimens of the American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Values (TLVs) and in consultation with Dr. Thomas Bernard, chair of the Physical Hazards Committee for the ACGIH . In addition, the Department considered indoor heat exposure would be addressed by the requirements of WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions.
296-62-09520 (6)	Wayne Brokaw Inland Northwest AGC	(6) 15 minutes or less in a sixty minute period…. How do you intend to track this? Is it accumulative, say 6 minutes vs. 15 minutes?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The 15-minutes may be assessed cumulatively in any consecutive hour.
296-62-09520 (6)	Wayne Brokaw Inland Northwest Associated General Contractors	In number 6, the exposure, you talk about a total of 15 minutes or less in a 60-minute period. This applies to every hour during the work shift. How do we track that, and how are the accommodations of 6 minutes versus 15 minutes -- I think we're just putting a lot of verbiage in place that minimizes the intelligence of a normal human to know if it's hot, you take clothes off, and if it's cold, you put something on. The regulations as to water, that's all in the training and the orientation of employees.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 provides an exemption for employees with incidental exposure. The purpose of this exemption is to exempt employees who may be outdoors intermittently for brief periods of time. Employees who are working outside for more than fifteen minutes are subject to the provisions of WAC 296-62-095. The rule does not require employers to document the amount of time an employer is outdoors.
296-62-09520 (7)	Jim Bjorkman M and M Transport, Inc.	Outdoor environment – Many places may be considered outdoor if environmental factors are not managed by engineering controls. What is an engineered control?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. A definition of “engineering control” has been added to the rule.
296-62-09520 (7)	Mary Dickinson Building Industry Association of Whatcom County	Another section of this proposed rule that is poorly written is the definitions section, particularly the section of outdoor environment. Outdoor environment includes vehicle cabs, sheds and tents or other structures when the environmental factors are not managed by engineering controls. The difficulty is that there is no definition of engineering controls in this section. Our best guess is that it would be air conditioning in a tent or the cab of a vehicle, for example. However, there is no explanation given in regards to due process rights of an employer how L&I will propose to enforce this rule. There are existing state and federal laws on the books about search and seizure, entry and stoppage of vehicles, as well as the entry and search and seizure into enclosed structures and other buildings, which would include tents, but there is no mention in this proposed WAC about how all of these constitutional and statutory protections will be followed in an enforcement action. Is L&I going to obtain appropriate search warrants? Will law enforcement be involved?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. A definition of “engineering control” has been added to the rule.

WAC Section	Commenter	Comment	DOSH Response
		As we stated above, there is no definition of what engineering controls means.	
296-62-09520 (7)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	The outdoor environment. Now maybe the vehicle challenge is taken care of here because it does mention vehicle cabs. I guess maybe if somebody is in a mobile workforce that isn't covered. Not clear to me. And maybe it is only if that outdoor environment involves a -- let's see, it is called "environmental factors are managed by engineering controls." I guess it means air-conditioning, I don't know, a window down in a cab, engineering. I don't know, it might be okay.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. A definition of “engineering control” has been added to the rule.
296-62-09520 (7)	Steven R Smith COL MAMC	(7) ...Construction activity is considered work in an indoor environment when the outside walls and roof are erected. Should not consider indoor until they can control climate, i.e., cool the environment when too hot.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09013, Temperature, radiant heat, or temperature-humidity conditions, currently requires employers to protect employees from heat-related illness in the indoor environment.
296-62-09520 (7)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and	But construction activities consider work in an indoor environment when the outside walls and roof are erected. Now, I don't know exactly how we are going to look at that. Again, maybe it is in here somewhere, but does that mean all the walls are up or just the beams are up or the curtains are up? The roof is on. Does that mean the roof or is it the tenth floor of the roof or the ninth floor? I don't know. I guess there are some concerns. What are we talking about there? Large projects may be different than somebody working in a small or enclosed area.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language states that when the outside walls and roof are erected, the building becomes an indoor environment.

WAC Section	Commenter	Comment	DOSH Response
	Inland Empire Chapter		
296-62-09520 (7)	Wayne Brokaw Inland Northwest Associated General Contractors	Then we talk about number 7, outdoor environment. It says, "Environments such as vehicle cabs, sheds and tents or other structures." What are other structures? So I ask that because if I can't explain other structures -- I know what a tent and a shed and a vehicle cab is, but I don't know about other structures.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. “Other structures” include enclosures that are not controlled by engineering controls.
296-62-09520 (7)	Wayne Brokaw Inland Northwest AGC	(7) and tents or outdoor structures may be considered. So an out door structure without fan or window for example is an outdoor environment? What are other out door structures?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. “Other structures” include enclosures that are not controlled by engineering controls.
296-62-09520 (8)	Wayne Brokaw Inland Northwest Associated General Contractors	The next piece we talk about is number 8, personal factors for heat-related illness. It says it "means factors that affect hydration or other physiological responses to heat." Again, what is physiological responses? I can put hygienists in here and I can get ten different definitions of it, and for us lay people we have to go out and figure out what's physiological, and if it doesn't quite fit the definition of that hygienist or that inspector, then we're setting ourselves up for a citation because we didn't do it precisely. Well, we don't know what it is, so we need more explanation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of “personal factors…” has been removed from the rule.
296-62-09520 (8)	Wayne Brokaw Inland Northwest AGC	(8) Physiological responses….what is this?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of “personal factors…” has been removed from the rule.
296-62-09520 (8)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and	Personal factors for heat-related illness means factors that affect hydration. I mean, that means factors that affect personal hydration and other personal physiological responses to heat. And I don't know if that's different for different people or not. I presume that it is. But I have a question about that.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of “personal factors…” has been removed from the rule.

WAC Section	Commenter	Comment	DOSH Response
	Inland Empire Chapter		
296-62-09520 (8)	Jim Bjorkman M and M Transport, Inc.	Personal factors – factors that affect hydration OR other physiological responses to heat. In plain English (or the language of the employee), any employee can claim heat related illness at any time and the employer must comply. What if the physiological response to heat is just the fact that the employee got drunk the night before or only got two hours sleep?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The definition of “personal factors…” has been removed from the rule.
296-62-09530	Randy Dasalla Washington Association of Landscape Professionals (WALP)	The first sentence in WAC 296-62-09530 reads, "The employer must ... reduce to the extent feasible..." Further clarification is needed on "to the extent feasible" to prevent misinterpretation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09530	Wayne Brokaw Inland Northwest Associated General Contractors	The next section, 296-62-09530, employer responsibility states, "The employer must establish, implement and maintain written procedures to reduce to the extent feasible" -- again, here's that word feasible. Where does that add anything to it? Why can't we just say the employer must establish, implement and maintain written procedures to reduce the risk of heat-released illness, which include the following elements, identification and evaluation of temperature and humidity associated with heat-related illness. It's real clean. It's real simple. It doesn't talk about to the extent feasible. On that same section, you say other environmental factors associated with heat-related illness. Again, what are the other environmental factors?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09530 (1)	Amy Brackenberry Building Industry Association of Washington	The question I had earlier was if the rule doesn't require employers to consider factors such as radiant heat, humidity, air movement, conductive heat, heavy labor or work tasks of long duration, then it should be currently written, employers would have every reason to believe that they have to factor those things in. I've asked this question a number of times. I wouldn't even know how to advise our members how to do that. I mean, that's where we're getting into employers being required to do climatologist type issues.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirement to identify and evaluate environmental factors has been removed from the rule.
296-62-09530 (1)	Jim Bjorkman M and M Transport, Inc.	Employer responsibility – Must have written plan, must identify and evaluate temperature, humidity, and other environmental factors associated with heat related illness. Considering Environmental factors can be almost anything, how can employers document that?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirement to identify and evaluate environmental factors has been removed from the rule.
296-62-09530	Gary Smith Independent	First, in proposed WAC 296-62-095910, it includes a Table 1 and provides specific temperature and humidity conditions when heat illness requirements will apply:	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

<table>
<tr><th>WAC Section</th><th>Commenter</th><th>Comment</th><th>DOSH Response</th></tr>
<tr><td>(1)</td><td>Business Association</td><td>
<table>
<tr><th></th><th>Work in direct sun</th><th>Work in shade</th></tr>
<tr><td>Work clothes</td><td>89°F</td><td>96°F</td></tr>
<tr><td>Double-layer woven clothes (e.g., cotton coveralls on top of summer clothes)</td><td>77°F</td><td>87°F</td></tr>
<tr><td>Vapor barrier (e.g., encapsulating suit or turn out gear)</td><td>52°F</td><td>62°F</td></tr>
</table>
We think Table 1 is a good approach. Then, everybody knows when the requirements of the rule apply. Then, in WAC 296-62-09530 it states:

WAC 296-62-09530 under employer responsibility it states: “(1) Identification and evaluation of temperature, humidity, and other environmental factors associated with heat-related illness;”
As you see, there is no reference to Table 1 in WAC 296-62-09530. This lack of reference creates confusion and ambiguity. It raises the question, when does Table 1 apply? Do I have to do something different before Table 1 levels apply? <u>We strongly suggest</u> that WAC 296-62-09530 be revised to read:

WAC 296-62-09530 - “(1) Identification and evaluation of temperature, humidity, and other environmental factors associated with heat-related illness <u>and when environmental factors present a condition listed in WAC 296-62-09510(2) Table 1;”</u>

</td><td>The referenced language has been removed from the rule.</td></tr>
<tr><td>296-62-09530 (1)</td><td>Randy Dasalla Washington Association of Landscape Professionals</td><td>WAC 296-62-09530 (1) currently reads "Identification and evaluation of temperature , humidity, and other environmental factors associated with heat-related illness." Since the table in WAC 296-62-09510 has been changed to include temperature only. references in this section to humidity and other environmental factors should be deleted.</td><td>The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

The requirement to identify and evaluate environmental factors has been removed from the rule.</td></tr>
</table>

WAC Section	Commenter	Comment	DOSH Response
	(WALP)		
296-62-09530 (1)	Stephen M. Serafin Quality Landscapes	WAC 296-62-09530-"(1) Identification and evaluation of temperature, humidity, and other environmental factors associated with heat-related illness." Since the table in WAC 296-62-09510 has been changed to include temperature only, references in this section to humidity, and other environmental factors should be deleted.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09530 (2)	Amy Brackenberry Building Industry Association of Washington	The concern about the rest breaks I think is another very ambiguous thing. What is the actual requirement there? Again, it explicitly does not say you have to give everybody a break at a certain time, but I think there is an implicit requirement.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The reference to rest breaks has been removed from the rule.
296-62-09530 (2)	Candelaria Murillo Columbia Legal Services	§296-62-09530(2): What, if any, are the difficulties of providing rest breaks in cool areas (such as shade)?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The reference to rest breaks has been removed from the rule.
296-62-09530 (2)	Candelaria Murillo Daniel G. Ford Columbia Legal Services	Subsection (2), first bullet point, should include a requirement that rest breaks be in cooling areas. As the EPA has stated: "It is hard to rest effectively in a hot environment. greater the heat strain. Breaks are fundamental to reducing the risk of HRI and thus employees should spend breaks in shaded areas.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The reference to rest breaks has been removed from the rule.
296-62-09530 (2)	Candelaria Murillo Daniel G. Ford Columbia Legal Services	A separate section should require that breaks be provided in cooling areas during all rest and meal breaks and adequate to accommodate all employees, to the extent feasible. Cooling areas, such as canopies, sunshades, umbrellas, and tarpaulins tied to four posts are a feasible and essential way of reducing the risk of HRI. Rest breaks help workers recover from heat and prevent serious HRI because they allow the heart rate to slow down and cool the body. A shaded area also offers and incentive to take a break particularly when, due to economic pressures, an employee is less likely to take a break. By the time employees exhibit signs or symptoms of HRI, they are more likely to be dehydrated and suffering serious effects from the heat. Chronic dehydration can also lead to other medical problems such as constipation, piles, kidney stones, and urinary infections.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The reference to rest breaks has been removed from the rule.
296-62-09530 (2)	Corwyn Fischer Washington State Farm Bureau	WAC 296-62-09530 – This section requires the employer to be a meteorologist. This could also be construed to employees that they will get more rest breaks.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirement to identify and evaluate environmental factors has been removed from

WAC Section	Commenter	Comment	DOSH Response
	Federation (WFB)		the rule. The reference to rest breaks has been removed from the rule.
296-62-09530 (2)	Jim Bjorkman M and M Transport, Inc.	The employer must provide rest breaks as needed to reduce to the extent feasible the risks of heat related illness. Is this paid time off?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The language regarding rest breaks has been removed from the rule.
296-62-09530 (2)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	Now, we always worry about what employers must do and employees must provide training. As I say, we do that. We have a training plan. We see that what we must have is written procedures that deal with these -- temperature, humidity, and other environmental factors. Again, I don't know -- this brings up a question for somebody that's working on a construction project, does that mean every subcontractor on the construction project must make these evaluations themselves or will a general contractor be making those evaluations of temperature, humidity -- or I guess it is really just temperature if you have got to choose. So we have got to have a training plan, it has got to have -- well, rest breaks. We are already required by law and rule to have rest breaks. I don't know if this means we have to schedule more rest breaks in our safety plan or have a safety plan that has to provide for additional rest breaks or not, but it appears that it does. And maybe it has to, under certain conditions, provide for additional rest breaks. Encouraging consumption of water, which we certainly do, and encouraging employees -- or employees are responsible for monitoring their own personal factors and, of course, training in that regard. So that's what a training plan has to have.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09530 (2)	Wayne Brokaw Inland Northwest AGC	WAC 296-62-09530 reduce to extent feasible the risks….etc. QUESTION: "Extent feasible" this is subjective and open to interpretation QUESTION: (1) temperature, humidity and other environmental factors. What are they? Proposed sentence: The employer must establish, implement, and maintain written procedures to reduce the risks of heat-related illness which include the following elements: (1) Identification and evaluation of temperature and humidity associated with heat-related illness; QUESTION: (2) Provisions to reduce to the extent feasible….again subjective and open to interpretation.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.

WAC Section	Commenter	Comment	DOSH Response
		Proposed sentence: (2) Provisions to reduce the risks of heat-related illness which include the following elements:	
296-62-09530 (4)	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	(4) This section will be interesting as to how L&I will enforce this section.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The purpose of the language in WAC 296-62-09530(4) is to clarify the employee's responsibility in relation to preventing heat-related illness.
296-62-09530 (4)	L&I – DOSH Staff	The last paragraph of 296-62-09530 seems misplaced. That section is titled "Employer Responsibility," but the last paragraph describes employees' responsibility, and is the final item in a list of elements that must be included in the employer's written procedures. Was the intent to say that employers must include in their written procedures a statement that the employees are responsible to monitor their own personal factors for heat-related illness? If so, that isn't clear from the way the draft is written.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The section title has been updated to include "employee responsibility."
296-62-09530 (4)	Glen Cunningham	These other points have been covered really well, but it's like you want us to be a doctor. I can't tell -- he had an eight degree difference. My wife and I are 27. She's cold at 95, and she wears a jacket too. And point 4 in number 296-62-09530 says, "Employees are responsible for monitoring their own personal factors for heat-related illness, including ensuring they consume adequate water. "That's really hard to do. We don't know what our employees' tolerances are. And this seems like if you do put this in, it's going to allow an inspector to come out and tell us we've done things wrong when we didn't think we did to make more money for L&I.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. In addition, the employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.
296-62-09530 (4)	Jim Thompson Thompson Homes	I represent Thompson Homes. We are a small construction company, just like Mr. Breidenbach's company. However, we produce luxury homes in the Spokane market. We employ less than five people, and we're under the same constraints that Mr. Breidenbach just spoke of. Jim actually asked a question that I think hasn't been fully addressed today, and that was where does the employee's responsibility truly begin and end with this issue. Under section number 296-62-09530 it says, "Encouraging frequent consumption of water, as described in WAC 296-62-09560." Part number (4) states, "Employees are responsible for monitoring their own personal factors for heat-related illness, including ensuring they consume adequate water." My assumption is that based on training the employer has given them, their point of responsibility would begin at that point. I want to know how do we monitor, as Mr. Breidenbach asked, whether or not they have consumed enough water based on those trigger issues that we have talked about today, and also have we taken	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language states that employees are responsible for monitoring their own personal factors. The employer is not responsible for monitoring these. In addition, the employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.

WAC Section	Commenter	Comment	DOSH Response
		personal responsibility away from them based on the way the rules are written. We are assuming that they have no mental capacity to make a judgment as to their own health, welfare, or even the consumption of proper liquid to hydrate themselves during any given day. My worry and wonder is what happened to common sense in the workplace, and is this issue such a force that we are looking at that it has taken away common sense from the employee.	
296-62-09540	Candelaria Murillo Columbia Legal Services	§296-62-09540: How is providing “suitably cool” water problematic, if at all?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Department believes that it may not be feasible for all employers to monitor the temperature of water provided to employees. While the rule does not specifically require employers to ensure water is suitably cool, research has shown that employees are more likely to drink the necessary amounts of water if the water provided is suitably cool. It is left to the employer's discretion as to whether or not they choose to monitor the temperature of the water. As a result, the Department does not require water to be “suitably cool.”
296-62-09540	Candelaria Murillo Daniel G. Ford Columbia Legal Services	We support requiring water in sufficient quantity to provide at least one quart per employee per hour. "Estimates of water requirements for persons doing moderate work in temperate regions during the summer range from six to ten quarts per person per day. The rule should address the temperature of water. People tend not to drink warm or very cold water in quantity as readily as they will cool water. Preferable water temperature is between 50°F to 60°F (also defined as "suitably cool"). Unless this section addresses the issue of temperature, workers are at risk of dehydrating and developing HRI. It should not be acceptable for employers, like Mr. Garcia's, to provide warm water that can develop an offensive taste or odor and is, therefore, not consumed by the worker.	Department believes that it may not be feasible for all employers to monitor the temperature of water provided to employees. While the rule does not specifically require employers to ensure water is suitably cool, research has shown that employees are more likely to drink the necessary amounts of water if the water provided is suitably cool. It is left to the employer's discretion as to whether or not they choose to monitor the temperature of the water. As a result, the Department does not require water to be “suitably cool.”
296-62-09540	Jim Bjorkman M and M Transport, Inc.	When environmental factors are present, the employer must provide at least one quart of water per hour. What is the definition of potable water? Who has to pay for the water? Does it have to be bottled water? Does the water have to be at a certain temperature? What if the Environmental factors change during the day, during the hour, etc.? Does the employee only get a prorated amount of water for that hour? Can an employee bring their own water? Can an employee or employer substitute something for water, such as Gatorade, etc.? What happens if the employee refuses to drink the quart per hour? How do you prove the employee drank the water?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The term “drinking water” is defined in the rule language. The definition clarifies that the drinking water can be provided in the form of bottled water; however, this is not required. Department believes that it may not be feasible for all employers to monitor the

WAC Section	Commenter	Comment	DOSH Response
			temperature of water provided to employees. While the rule does not specifically require employers to ensure water is suitably cool, research has shown that employees are more likely to drink the necessary amounts of water if the water provided is suitably cool. It is left to the employer's discretion as to whether or not they choose to monitor the temperature of the water. As a result, the Department does not require water to be “suitably cool.” Current standards require employers to provide water to employees at all times. This rule requires the employer to ensure the employee has access to a specific amount of water when the trigger temperatures are met. Employees are allowed to bring their own water; however, the employer is responsible for ensuring the employee is provided with an adequate amount of water. The rule has been updated to clarify that beverages such as Gatorade are acceptable. WAC 296-62-095 requires employers to provide 1 quart of water per hour per employee to employees; not to monitor their consumption.

WAC Section	Commenter	Comment	DOSH Response
296-62-09540	Randy Dasalla Washington Association of Landscape Professionals (WALP)	WAC 296-62-09540 -One quart of drinking water per employee per hour is excessive. In some situations, the weight of carrying this amount of water could contribute to causing heat-related illness. Therefore, this amount Should be reduced to a more reasonable level.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to provide 1 quart of water per hour per employee to employees; not to monitor their consumption. The amount of 1 quart of water per hour per employee was developed based on best-available evidence including but not limited to the following sources: NIOSH - http://www.cdc.gov/niosh/hotenvt.html#stress "the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body." CDC - http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp#drink "During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour."
296-62-09540	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	WAC 296-62-09540 – This section is already being complied with in agriculture as required by the field sanitation section. All water must be replenished as needed.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
296-62-09540	Wayne Brokaw Inland Northwest AGC	WAC 296-62-09540 Drinking water.....When environmental factors present.. ..... QUESTION: What are they? And again you refer to Table 1 which doesn't list anything. Proposed sentence: Drinking water must be provided and made (readily available....etc.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09540	Stephen M. Serafin Quality Landscapes	WAC 296-62-09540-One quart of drinking water per employee per hour is excessive. This requirement assumes that everybody has the same metabolism and the same hunger/thirst body mechanics. I can tell you from experience, that I will drink a gallon of water on a hot day, whereas my partner will consume less than that. As the old adage says, "You can lead a horse to water, but you can't make him drink" will apply here.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to provide 1 quart of water per hour per employee to employees; not to monitor their consumption. The amount of 1 quart of water per hour per employee was developed based on best-available evidence including but not limited to the following sources: NIOSH - http://www.cdc.gov/niosh/hotenvt.html#stress

WAC Section	Commenter	Comment	DOSH Response
			"the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body." CDC - http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp#drink "During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour."
296-62-09540	Jay Herzmark Washington Federation of State Employees, Local 1488	We would like you to add that there must be a minimum amount of water, such as a quart per employee, available at all times. This will make it possible for L&I to enforce this section and keep employers from claiming they were just about to go get more water, when in fact they weren't. It will also keep a buffer so they don't accidentally run out. There should be an additional requirement for the water to be suitably cool. Water stored in the cab of a truck sitting in the sun when the outside temperature is 100 degrees can get hot enough to cause burns. That is clearly not going to be effective in reducing heat related illnesses.	Department believes that it may not be feasible for all employers to monitor the temperature of water provided to employees. While the rule does not specifically require employers to ensure water is suitably cool, research has shown that employees are more likely to drink the necessary amounts of water if the water provided is suitably cool. It is left to the employer's discretion as to whether or not they choose to monitor the temperature of the water. As a result, the Department does not require water to be “suitably cool.”
296-62-09540	Gabrielle Toutonghi	I just am just hoping that the section about environmental factors and drinking water will be clarified. We know that heat stress is cumulative, the effects are. And from this section it looked like water was only required when it reached the temperatures in the table. If the temperatures in the table are reached and water is provided for that period of time, are they also required to provide water afterward when the metabolic rate is higher and they are warm, or is it just during the period of time when it is hot? And then I was wondering -- it doesn't say the employer has to provide it, but it has to be provided and made readily available in sufficient quantity. So it sort of implies that the employer provides it or has made it readily available. But it says "and" so I wasn't sure exactly what that meant either. And it does say "during the shift." So if the shift starts before that but you haven't reached the conditions yet, is water required to be provided before that? So that -- just this little section, it would be nice if there was clarification maybe in the WRD or in the actual draft.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The language is this section has been updated to clarify that employers are not required to provide the entire amount of water for the full shift at the beginning of the shift.
296-62-09540	Mary Ann Filippini Northern Marine and General Contracting	You are also insinuating that an employee should have a quart of water per hour -- you're insinuating that it's okay to drink two gallons of water in an eight-hour period, which then you fall into the problem of over-water consumption, which I myself have -- I was hit by someone who was later thrown in jail. He had a problem with feeling dirty in jail, so in order to combat that he drank water. Well, he ended up dying of over-consumption of water, which I had never heard of before. Or the lady that drank too much water in the	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to provide 1 quart of water per hour per employee to employees; not to monitor their consumption.

WAC Section	Commenter	Comment	DOSH Response
		radio debacle that happened somewhere. So that is definitely a problem that's not addressed here.	
296-62-09540	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	Employers must provide -- drinking water must be provided. Of course, this would only be when those environmental factors are present. So again, I hope it is not a "gotcha" deal. How do we make sure that we have got the water there when the temperature clicks over? If it is going to be -- we know it is going to be hot days, we will be preparing for it. But if we get caught, if our weather man wasn't accurate, we are going to get nailed.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Other rules (including chapter 296-800, Safety and Health Core Rules; chapter 296-155, Safety Standards for Construction Work; and chapter 296-307 WAC, Safety Standards for Agriculture) require that water must be available at all times. WAC 296-62-095 requires that employers provide at least 1 quart of water per hour per employee when the trigger temperatures are met.
296-62-09540	Wayne Brokaw Inland Northwest Associated General Contractors	Again, under 540, the drinking water, you say, "when environmental factors present." Again, what are those environmental factors? And again, does that refer back to Table 1? And again, Table 1 doesn't really address those factors that deal with that.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09540	Michael Quattro, CSP Parsons Construction Group Safety Manager	In general I believe the department might want to remove their suggested one-quart per hour suggestion and simply state that the employees must drink enough water to remain hydrated. If an employee were to follow the policy guideline and drink too much water and suffer from water toxicity, the department might set itself up for some liability.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to provide 1 quart of water per hour per employee to employees; not to monitor their consumption. The amount of 1 quart of water per hour per employee was developed based on best-available evidence including but not limited to the following sources: NIOSH - http://www.cdc.gov/niosh/hotenvt.html#stress "the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body." CDC - http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp#drink

WAC Section	Commenter	Comment	DOSH Response
			"During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour."
296-62-09550	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	WAC 296-62-09550 – I believe that employers can do without a rule that would trigger them to respond to employees that are ill or show signs of any type of job related injury or illness. I do believe that most employers will do the right thing for employees, they will take action and have employees receive medical attention they need or have EMS respond.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department also believes that most employers will take action when necessary but the severity of the results when employers do not respond as appropriate justifies regulation. Employers who appropriately respond to employees when necessary will be in compliance with this rule.
296-62-09550	Carl Gipson Washington Policy Center	It is already against state and federal law to abuse or withhold medical attention from employees. It is in the interest of both employer and employee to take a common-sense approach to preventing heat stroke. It already was prior to the HRI WACs being implemented.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department also believes that most employers will take action when necessary but the severity of the results when employers do not respond as appropriate justifies regulation. Employers who appropriately respond to employees when necessary will be in compliance with this rule.
296-62-09550 (1)	Jay Herzmark Washington Federation of State Employees, Local 1488	WAC 296-62-09550 Responding to signs and symptoms of heat related illnesses. In 296-62-09550 (l) the examples listed are not necessarily adequate to reduce body temperature. Staying in an area over one hundred degrees will not help cool the person down even if it is in the shade. Please delete the examples or provide examples that will always be effective.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The referenced language has been removed from the rule.
296-62-09550 (1)	Wayne Brokaw Inland Northwest AGC	WAC 296-62-09550 (1) heat-related illness must be relieved of duty…. QUESTION: What does relieved of duty mean? What about collective bargaining agreements language of hours worked/paid?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. When an employee is suffering a heat-related illness the employer must ensure that appropriate care must be provided in order to prevent further injury. This is consistent with providing first-aid when an employee receives a cut or other injury at work. Collective bargaining agreements are a labor/management issue and not under the jurisdiction of the Department.
296-62-09550 (1)	Wayne Brokaw Inland Northwest Associated General Contractors	Going down to 296-62-09550, responding to signs and symptoms of heat-related illness. Under (1) again it refers to Table 1, and then we go on to say, "signs or demonstrating symptoms of heat-related illness must be relieved of duty." How do we relieve an employee of duty? There's a few things there. Number one is that I negotiate collective bargaining agreements with the building trades. They aren't going to agree that I can relieve	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. When an employee is suffering a heat-related illness the employer must ensure that appropriate care be provided in order to prevent further injury. This is consistent with providing first-aid when an employee receives a cut or other injury at work. Collective bargaining agreements are a labor/management issue and not under the jurisdiction of

WAC Section	Commenter	Comment	DOSH Response
		somebody of duty. If I do, I'd set myself up for a grievance. And besides that, you also have show-up time on jobs, so if they get relieved in the first hour, I have a minimum of two or four hours I've got to pay them to show up, so now that's a cost factor. So being relieved of duty, I don't know if that means they go sit in the shade or you take them to the hospital or you call an ambulance -- I don't know when you say relieved of duty what that really does for us.	the Department.
296-62-09550 (1)	Jim Bjorkman M and M Transport, Inc.	Employers must provide to employees who show signs of heat illness a break from work (is this Break paid time), shaded rest areas, misting stations, air conditioned rooms and the employee must be monitored.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. Employers are not required to provide shaded rest areas, misting stations, or air-conditioned rooms. WAC 296-62-09550 The referenced language has been removed from the rule.
296-62-09550 (2)	Candelaria Murillo Columbia Legal Services	§296-62-0955(2): What, if any, are the challenges of having a qualified medical provider or certified first aid provider assess whether a person demonstrating signs or symptoms of HRI needs medical attention?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 requires employers train employees on the signs and symptoms of heat-related illness. This allows multiple individuals at the worksite to be able to assess whether further medical assistance is necessary.
296-62-09550 (2)	Candelaria Murillo Columbia Legal Services	I would like to speak to issues that the rule does touch on but doesn't directly address. One of those is with regard to responding to signs and symptoms of heat-related illness. The rule fails to address who makes the determination as to when a worker needs medical evaluation or needs an assessment to either be able to return to work or further medical attention is necessary. The proposal would be for a qualified medical provider or a certified first aid provider to make that determination. The average person is unqualified to assess the worker's condition since by definition it is considered a medical condition in the absence of proper training.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 requires employers train employees on the signs and symptoms of heat-related illness. This allows multiple individuals at the worksite to be able to assess whether further medical assistance is necessary.
296-62-09550 (2)	Candelaria Murillo Daniel G. Ford Columbia Legal Services	As noted in the definitions section of these comments, the second part of subsection (1) should be replaced with "access to a cooling area." Subsection (2) fails to address the issue of who makes the determination that an employee exhibiting signs or symptoms of HRI needs medical attention. HRI covers multiple medical conditions of varying degrees. A qualified medical provider or certified first aid provider is in the best position to determine whether the signs and symptoms of an employee put them at risk of heat exhaustion or heat stroke. The average person, such as a co-worker or foreman, is unqualified to assess the worker's condition in the absence of proper training. If a person is not properly evaluated and medically treated, then even mild forms	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 requires employers train employees on the signs and symptoms of heat-related illness. This allows multiple individuals at the worksite to be able to assess whether further medical assistance is necessary.

WAC Section	Commenter	Comment	DOSH Response
		of HRI can escalate into a more serious condition.	
296-62-09550 (2)	L&I – DOSH Staff	It isn't clear whether 296-62-09550(2) applies at all times, or only when conditions are as described in Table 1. It's possible that a worker who is particularly susceptible could show signs or symptoms of heat stress before conditions in Table 1 are reached. Was the intent that we would enforce paragraph (2) in that case, or not?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to monitor employees only when the employee has shown signs or demonstrated symptoms of heat-related illness.
296-62-09550 (2)	Jay Herzmark Washington Federation of State Employees, Local 1488	In 296-62-09550 (2) Please add ...heat related illness must be monitored by a qualified person to determine ... It is important that the person doing the monitoring know what the signs and symptoms of heat related illness are and know when they are getting worse. Most people are not qualified to do that and further fatalities might result. As written there is no requirement that the person doing the monitoring have any training at all? The owner of a company may be the person doing the monitoring. Yet only the immediate supervisor has to be trained.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 requires employers train employees on the signs and symptoms of heat-related illness. This allows multiple individuals at the worksite to be able to assess whether further medical assistance is necessary.
296-62-09550 (2)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	Then we are responding to the signs and symptoms of heat -- employers must respond to the signs and symptoms of heat-related illness. Certainly we must, we should, it is part of our plan. Now it doesn't require misting stations and shaded rest areas or temperature-controlled environments, but we will do what we can, and I guess that's all we are required to do, I hope, when somebody shows those signs and we have to deal with them. "Employees showing signs must be monitored." Again, I don't know how we might get nailed for not monitoring. We certainly would monitor employees as best we can as we do our work, but I don't know if an employer is required to have another employee monitor an employee hired to monitor but -- I doubt it, but it is difficult to be sure of.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 requires employers to monitor employees only when the employee has shown signs or demonstrated symptoms of heat-related illness.
296-62-09560	Corwyn Fischer Washington State Farm Bureau Federation (WFB)	WAC 296-62-09560 – This is the most important part of the rule. I fully agree with this section.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.
296-62-	Len Cornwell	And I have one question. How often are we supposed to do this training? The document	The Department appreciates the time taken to provide this comment and recognizes the

WAC Section	Commenter	Comment	DOSH Response
09560	Sammamish Plateau Water and Sewer District	did not say what the frequency of the training was to be, and I think that's a good question that should at least be stated. Most other rules like this do state how frequent the training should be, unless you intend it to be a one-time only, and then you've got to question whether people remember three years from now what the rules are.	concerns and opinions presented. WAC 296-62-09560 requires that the training be provided annually.
296-62-09560	Michael Quattro, CSP Parsons Construction Group Safety Manager	Per WAC 296-62-09560 employees must be trained in a language the employee understands. This appears to be a significant interpretation by the department and an expansion of RCW.17.010, .040, .050, and .060. As the statutes listed for the creation of this rule the department should be consistent in their application. It would be virtually impossible to provide this training in every various language spoken in the state of Washington to ensure that the end users of this WAC are implementing correctly. Let's be honest, the department means that this training must be provided in Spanish, as the original intent of the rule was to provide for the care of agriculture workers. I believe the department has expanded its rule making past the intent of the RCW and it would be impossible for small business to provide interpretation for all of the languages in the state of Washington. I believe the department could remove the requirement for the language and simply state that the employer must determine that the employee understands the training they have been provided.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's compliance policy is that all training must be effective in practice. This would include ensuring the training in presented in a language the employee understands. The employer is only responsible for ensuring that their employees understand the training. This would only require the employer to provide materials or training in the language their employees speak – or in the alternative pictures may be used.
296-62-09560	Jay Herzmark Washington Federation of State Employees, Local 1488	WAC 296-62-09560 Information and training In the first paragraph above first sub-section, please add that the training must be effective in practice. Ineffective training is a waste of everybody's time. Only effective training will prevent heat related illnesses and deaths. Also L&I should stop producing power point presentations, putting them on the web and telling employers that that is satisfactory training. In many cases that is not effective training and should not be considered so.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department did not add language in WAC 296-62-09560 regarding "effective in practice;" however, numerous clarifications were made to this section in an effort to improve clarity and effectiveness.
296-62-09560	Jay Herzmark Washington Federation of State Employees, Local 1488.	I have -- we have submitted written testimony and we have been involved in the development of the standard. So our general stand on various parts of this are well-known to the department. I just want to cover some specific things and that is the training requirement. I hope this works okay. I apologize for being non-standard. What I would like to do is go over a little bit about the training requirements that says that we have to cover the purpose and requirements of the standard. It is a little bit hard to read, but I wanted to -- well, I will just go over it here. "This standard	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The requirements of WAC 296-62-095 state that the all training must be provided in a language the employee understands.

WAC Section	Commenter	Comment	DOSH Response
		it applies all the employees with one or more used than it executes the work in an environment in the outdoors. The projected employers must execute the practical ones are workplace to reduce or to eliminate the ambient risks of heat-related illness resulting of the exposition to the outdoors to the temperature, humidity, and other factors, or all the combination of these. Prevention that the employer must establish, to execute, and to keep written procedures efficient to hinder the occurrence of heat-related illness." So this one here, just on water. "When the heat-related perigos of the illness will be current, the water drinking must be supplied and readily" -- I am sorry, I was supposed to go slower -- "must be readily accessible fact in the amount enough to supply to the little one room for the employee in the hour. The employees who show signals or that they demonstrate symbols of heat-related illness must be alleviated to the duty and since that with half sufficient to reduce the temperature of body. Some examples include: Protected areas of rest, stations misting, or controlled environments of the temperature (for the conditional, tows air)." I just have one more slide here. "The employees who show signals or that they demonstrate symptoms of heat-related illness must com.cuidado to be evaluated to determine if it is appropriate to return to work or if medical attention will be necessary. The training must be supplied before the attributions to the outdoors of the work that present heat-related perigos of the illness, and to less annually after this." So those are the purpose and requirements of the standard and that's part of -- this has to be prevented -- or excuse me, presented as part of the training. And so what I would like you to do is if you would sign this saying that you have been trained, we have covered this thing, and that just makes sure that you were trained. As any employer, you know, we want to make sure that we get a list of the people who attended the training and such. Okay. I do have one more slide. The current standard as it is proposed under information training says that all training must be provided in language that the employee understands. And I am sure that what you saw me present and heard me present was English.	

WAC Section	Commenter	Comment	DOSH Response
		Now what I did to get that -- and I don't think anybody understood this, I know I didn't understand it -- what I did was I translated English into Spanish and then I translated it back into English. And what I have seen numerous times is training presented in language that -- it is supposedly what people understand, it is their native language, but they don't really understand it because we use big words, because it is not really well translated, the PowerPoint presentations have small letters or they are hard to read or we go through it really fast or they have been on a 12-hour shift and it is now time to go home and they turn out the lights and don't give you coffee and now you have got overtime for training. What I would like to see is that the training -- that the training part -- this information on training -- information training section be trained to the red, which just says, "All training must be effective in practice." The department -- this training that I -- these overheads that I got were really from L&I's website and I just modified the language a little bit so no one could understand them. And I had an accidental explosion, perhaps I had some technical difficulties that might have distracted from your training, your ability to receive training. But I am sure that since you have all signed that piece of paper that we have evidence that we trained you and you are good to go. So I appreciate your taking the time, and I am sorry about startling you with the explosion but I guess that was my intent.	
296-62-09560 (1)	Jim Bjorkman M and M Transport, Inc.	The training has to be in the language of the employee. Does the employee have to be legal??	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department's jurisdiction is limited to employee-employer relationships. WISHA regulations do not address whether an employee can legally work in the United States.
296-62-09560 (1)(b)	Doug Lydig Lydig Construction	I think that the Department is correct in addressing additional training requirements so that we can bring these up to our employees about signs and symptoms of heat-related illness, whether it's heat stress or heat stroke. I think that's a good idea, but I also think they need to take into account that we cannot dictate the personal choices of our employees. We have nearly 400 employees.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 does not require or recommend that the employer obtain personal information from the employee. The rule requires that the employer provide general awareness training to the employee so that the employee can self-monitor their behavior. An example of this awareness training is available on the Department's

WAC Section	Commenter	Comment	DOSH Response
			website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
WAC 296-62-09560 (1)(b)	Rob Koba TEAM Construction	TEAM Construction is writing to you in response to the Washington State Department of Labor and Industries proposed Heat Stress Rule Proposal aimed at the reduction of heat-related illness in the workplace. While we fully understand and currently manage heat-related illness within current guidelines of WISHA and Federal Guidelines for construction businesses, we find our interpretation of pending heat-stress enforced rule changes excessive and reasonably beyond the means of implementing in the construction industry. Of significant note to TEAM Construction is regarding the requirements of our Field Supervision. If our interpretation of the forthcoming proposed Heat Stress Rule is correct, you are requesting that supervision take corrective actions based on quote, "symptoms consistent with possible heat related illness." This coupled with the required Supervisors knowledge of items listed in WAC 296-62-09560, Information and Training, Subsection (1), paragraph (b), puts an enormous burden of a supervisor not violating confidentiality issues and broaching diagnosis better left served by trained medical professionals. In closing, we believe that the proposed guidelines are currently met in the construction industry through current safety and health programs mandated and administered by individual companies meeting WISHA and OSHA guidelines. Requirement of this additional proposed Rule Making Order will unfairly burden both public and private sectors due to the increased cost to administrate and document the specific program when in reality the program exists when responsible employers and employees insure the well being of themselves and the workplace.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 does not require or recommend that the employer obtain personal information from the employee. The rule requires that the employer provide general awareness training to the employee so that the employee can self-monitor their behavior. An example of this awareness training is available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
296-62-09560 (1)(b)	Mary Dickinson Building Industry Association of Whatcom County	The proposed WAC itself conflicts with existing Washington State and Federal laws. According to the proposed WAC, all training must be conducted that includes general awareness of personal factors that may increase susceptibility to heat illness, including, but not limited to, an individual's age, degree of acclimatization, medical conditions, water consumption, alcohol consumption, caffeine consumption, nicotine use and use of prescription and non-prescription medications that may affect hydration or other psychological responses to the heat. The problem with the above provision is that an employer is barred by existing employment and privacy laws from asking the necessary questions to conduct the training that would be tailored to an individual employee's age, medical condition, medications, et cetera. There is no explanation in the proposed heat stress rule as to how an employee or employer is supposed to comply, and there is no recognition anywhere in this proposed WAC of existing state and federal laws.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 does not require or recommend that the employer obtain personal information from the employee. The rule requires that the employer provide general awareness training to the employee so that the employee can self-monitor their behavior. An example of this awareness training is available on the Department's website at http://www.lni.wa.gov/safety/topics/atoz/heatstress/default.asp.
296-62-09560	Candelaria Murillo	The second issue I would like to address is under information and training. It's the section on personal protective equipment. It currently states that personal protective equipment	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented.

WAC Section	Commenter	Comment	DOSH Response
(1)(d)	Columbia Legal Services	should not be removed unless it is feasible. Feasible in this context is vague. Because of the risk, the studies have shown that those working with personal protective equipment -- and Sr. Comacho, the death that you did mention in 2006 was wearing personal protective equipment -- the risk of heat-related illness and heat stroke are much higher in light of that, and the modification would be to train employees to refrain from removing the personal protective equipment if doing so would create a greater safety hazard.	The Department believes the phrase “when feasible” addresses this concern.
296-62-09560 (1)(d)	Candelaria Murillo Daniel G. Ford Columbia Legal Services	We support this section. Controlling heat stress and preventing HRI is the responsibility of management and employees, with training as an instrumental element. However, subsection (1)(d) fails to address which conditions warrant wearing personal protective equipment (PPE) during breaks. Employees wearing PPE are more susceptible to HRI because the weight of the PPE garments, the equipment, and exposure to certain pesticides can increase body heat and sweating making it difficult for the body to cool. A clearer and protective approach would be to train employees to refrain from removing their PPE if doing so would create a greater safety hazard.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department believes the phrase “when feasible” addresses this concern.
296-62-09560 (1)(e)	Wayne Brokaw Inland Northwest AGC	(e) One quart or more over the course of an hour. QUESTION: How derived at? Who is going to monitor?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume. The amount of 1 quart of water per hour per employee was developed based on best-available evidence including but not limited to the following sources: NIOSH - http://www.cdc.gov/niosh/hotenvt.html#stress "the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body." CDC - http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp#drink "During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour."
296-62-09560 (1)(e)	Wayne Brokaw Inland Northwest Associated General Contractors	Then under 296-62-09560 you say, "One quart or more over the course of an hour." How is that one quart or more derived, and who's going to monitor it? Is the supervisor or foreman supposed to walk around and say, hey, have you drank your quart of water in the last hour? Again, if something happens, that's going to be the first thing the Department looks at, were you monitoring to make sure they had their quart of water every hour.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The employer is only responsible for providing water to the employee. The employee is responsible for monitoring how often and how much water they consume.

WAC Section	Commenter	Comment	DOSH Response
			The amount of 1 quart of water per hour per employee was developed based on best-available evidence including but not limited to the following sources: NIOSH - http://www.cdc.gov/niosh/hotenvt.html#stress "the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body." CDC - http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp#drink "During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour."
296-62-09560 (1)(f)	Larry Stevens Mechanical Contractors Association of Western Washington and the National Electrical Contractors Association, the Puget Sound chapter, Southwest Chapter, and Inland Empire Chapter	The importance of acclimatization, and I guess that raised the question in my mind as to what's required in a training plan for acclimatization. I kind of know what acclimatization is. It usually takes time to acclimatize to an environment. You go up the mountain, if you have a different altitude, whatever it might be, you have got to acclimatize. I don't know how you acclimatize to a temperature that may come along but may not be there now but how you do that. How do you plan for acclimatization? Again, I think teaching people to be prepared or be aware of a acclimatization is fine, but I am not sure how someone would be or how we as employers will be held accountable for acclimatization. And then we have got to teach the purpose of this standard, which I am still -- I guess that was kind of what my first comment was. We are not sure -- we know all safety is important. Like I say, we believe in it. Heat stress can be harmful, as pointed out by these gentlemen.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-095 only requires employer's to explain the importance of acclimatization.
296-62-09560 (1)(g)	Steven R Smith COL MAMC	In the subsections, I guess you will put the symptoms workers and employers should be looking for as evidence of heat stress. Correct? One thing I learned in my research two years ago was that exhaustive heat stroke is very misunderstood and is not distinguishable from heat exhaustion without further testing. Anyone displaying symptoms of "brain dysfunction" should be treated as heat stroke until proven otherwise. Slurred speech is usually the first sign of this, preceding disorientation, unconsciousness and coma.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. WAC 296-62-09560 requires that the employer provide training to the employees on the sign and symptoms of heat-related illness. Information on these signs and symptoms are available in the Department's sample training materials.
296-62-09560 (1)(h)	Jay Herzmark Washington Federation of State	In 296-62-09560 (1)(h) Please drop ...reporting to the employer, or through the employee's supervisor, symptoms ... The existing wording implies that reporting to the supervisor is not reporting to the employer. The supervisor is the employer's agent and knowledge the supervisor has is knowledge the employer has.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has implemented this suggestion in the rule.

WAC Section	Commenter	Comment	DOSH Response
	Employees, Local 1488		
296-62-09560 (2)	L&I -- ISH	In reading the rule, it's unclear to me if the supervisor must have annual training or if it's just the employees, I think it's the phrase "in a language that the employee understands" that's throwing me. Did you intend that the supervisors get annual training too?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The annual training requirement applies to both employees and supervisors.
296-62-09560 (2)	Jim Bjorkman M and M Transport, Inc.	Employee supervisors must be trained in heat related illness and know how to provide clear and precise directions to the EMT who needs to find the work site. Again, with environmental factors being involved, how can a supervisor (a non medical person) do this effectively? Again, you are asking an employee who you think does not have enough brains to drink water when hot to do this type of work.	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The rule language has been updated by removing the requirement to provide directions to the EMT. The Department recognizes that a significant amount of outdoor work is transitory and requiring this element in annual training may not provide protection for the employees over the course of the summer months.
296-62-09560 (2)	L&I – DOSH Staff	I can foresee some difficulty determining whether employers are in compliance with 296-62-09560. The tricky phrase is "…conditions that may present heat-related illness hazards" in the section header and also in paragraph (2). When, exactly, is it citable? Does that mean they don't have to train employees until conditions reach the limits in Table 1? What if temperatures during the inspection aren't quite that high yet, but they're predicted to be that high "soon," and employees haven't been trained. Is that citable? How soon does "soon" have to be in order to be citable?	The Department appreciates the time taken to provide this comment and recognizes the concerns and opinions presented. The Department has implemented this suggestion into the rule.

Appendix 1: Pertinent Rules for Heat-Related Illness

	General Industry	Construction	Agriculture
Temperature extremes	**WAC 296-62-09013 Temperature, radiant heat, or temperature-humidity combinations.*** (1) Workmen subjected to temperature extremes, radiant heat, humidity, or air velocity combinations which, over a period of time, are likely to produce physiological responses which are harmful shall be afforded protection by use of adequate controls, methods or procedures, or protective clothing. This shall not be construed to apply to normal occupations under atmospheric conditions which may be expected in the area except that special provisions which are required by other regulations for certain areas or occupations shall prevail.		
Potable water	**References:** There are additional rules for potable water in the following chapters: ➢ *Firefighters - WAC 296-305-07017, First aid for wildland fire fighters.* ➢ *Compressed Air - WAC 296-36-165 (3), Sanitation below ground.* **WAC 296-800-23005 Provide safe drinking (potable) water in your workplace.** **You must:** (1) Provide safe drinking (potable) water for employees for: • Washing themselves • Personal service rooms • Cooking • Washing premises where food is prepared or processed • Washing food, eating utensils, or clothing (2) Make sure when providing movable or portable drinking water dispensers that they are: • Capable of being closed • Kept in sanitary condition • Equipped with a tap (3) Prohibit employees from: • Using shared drinking cups or utensils.	***WAC 296-155-140 Sanitation.*** (1) Potable water. (a) An adequate supply of potable water shall be provided in all places of employment. (b) Portable containers used to dispense drinking water shall be capable of being tightly closed and equipped with a tap. Water shall not be dipped from containers. (c) Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose. (d) The common drinking cup is prohibited. (e) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided. (f) All water containers used to furnish drinking water shall be thoroughly cleaned at least once each week or more often as conditions require. (g) The requirements of this subsection do not apply to mobile crews or to normally unattended work locations as long as employees working at these locations have transportation immediately available, within the normal course of their duties, to nearby	**WAC 296-307-24012 How must the potable water supply be maintained?** (1) You must provide potable water in all places of employment, for drinking, washing of the person, cooking, washing food, washing cooking or eating utensils, washing food preparation or processing premises, and for personal service rooms. (2) Potable drinking water dispensers must be maintained in sanitary condition, be closeable, and have a tap. (3) Open containers for drinking water from which the water must be dipped or poured, even if fitted with a cover, are prohibited. (4) A common drinking cup and other common utensils are prohibited. ***WAC 296-307-09512 What potable water sources must an employer provide?*** You must provide potable water for employees engaged in hand-labor operations in the field, without cost to the employee. Potable water must meet the following requirements: (1) Potable water is in locations that are accessible to all employees. (2) Potable water containers are refilled daily or more often as necessary. (3) Potable water dispensers are designed,

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	• Using open containers such as barrels, pails, and tanks that require employees to dip or pour drinking water, even if the containers have covers. Definition: • Potable water is water that you can safely drink that meets specific safety standards prescribed by the United States Environmental Protection Agency's *National Interim Primary Drinking Water Regulations*, published in 40 CFR Part 141, and 40 CFR 147.2400. • Personal service rooms are used for activities not directly connected with a business' production or service function such as first aid, medical services, dressing, showering, bathrooms, washing and eating.	facilities otherwise meeting the requirements of this section. (h) The following definitions apply: (i) Mobile crew: A work crew that routinely moves to a different work location periodically. Normally a mobile crew is not at the same location all day. (ii) Normally unattended work location: An unattended site that is visited occasionally by one or more employees. (iii) Nearby facility: A sanitary facility that is within three minutes travel by the transportation provided. (iv) "Potable water" means water which meets the quality standards for drinking purposes of state or local authority having jurisdiction or water that meets the quality standards prescribed by the United States Environmental Protection Agency's National Interim Primary Drinking Water Regulations, published in 40 CFR Part 141, and 40 CFR 147.2400.	constructed, and serviced so that sanitary conditions are maintained. They are closeable and equipped with a tap. (4) Open containers such as barrels, pails, or tanks for drinking water from which water must be dipped or poured, whether or not they are fitted with a cover, are prohibited. (5) Any container used to distribute drinking water is clearly marked in English and with the appropriate international symbol describing its contents. (6) Any container used to distribute drinking water is only used for that purpose. (7) Potable water is suitably cool and provided in sufficient amounts, taking into account the air temperature, humidity, and the nature of the work performed, to meet employees' needs. Note: Suitably cool water should be sixty degrees Fahrenheit or less. During hot weather, employees may require up to three gallons of water per day. (8) The use of common drinking cups or dippers is prohibited. Water is dispensed in single-use drinking cups, personal containers, or by water fountains. "Single-use drinking cups" means containers of any type or size, disposable or not, and including personal containers if the choice to use a personal container is made by the employee, not the employer. (9) Employees must be prohibited from drinking from irrigation ditches, creeks or rivers. Potable water must meet the quality standards for drinking purposes of the state or

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			local authority, or must meet quality standards of the United States Environmental Protection Agency's National Interim -- Primary Drinking Water Regulations, published in 40 CFR Part 141 and 40 CFR 147.2400.
First-aid	**References:** There are additional rules for first-aid in the following chapters: ➢ *Compressed air - WAC 296-36-210, Medical supervision and medical and first-aid facilities--Medical supervision.* ➢ *Fire fighters - WAC 296-305-01515, First-aid training and certification.* ➢ *Logging - WAC 296-54-51520, First-aid training.* ➢ *Sawmills - WAC 296-78-540, First-aid training and certification.* ➢ *Shipbuilding - WAC 296-304-06015, First aid.*	**WAC 296-155-120 First-aid training and certification.** This section is designed to assure that all employees in this state are afforded quick and effective first-aid attention in the event of an on the job injury. To achieve this purpose the presence of personnel trained in first-aid procedures at or near those places where employees are working is required. Compliance with the provisions of this section may require the presence of more than one first-aid trained person. (1) Each employer must have available at all worksites, where a crew is present, a person or persons holding a valid first-aid certificate. (2) All crew leaders, supervisors or persons in direct charge of one or more employees must have a valid first-aid certificate. (3) For the purposes of this section, a crew means a group of two or more employees working at any worksite. Note: The requirement that all crew leaders, supervisors or person in direct charge of one or more employees (subsection (3) of this section) applies even if other first-aid trained	**WAC 296-307-03905 Make sure that first-aid trained personnel are available to provide quick and effective first-aid.** **You must** Comply with the first-aid training requirements of 29 CFR 1910.151(b) which states: "In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately rained to render first aid."
	WAC 296-800-15005 **Make sure that first-aid trained personnel are available to provide quick and effective first aid** You must: Comply with the first-aid training requirements of 29 CFR 1910.151(b) which states: "In the absence of an infirmary, clinic, or hospital in near proximity to the workplace, which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first-		

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	aid."	person(s) are available. In emergencies, crew leaders will be permitted to work up to thirty days without having the required certificate, providing an employee in the crew or another crew leaders in the immediate work area has the necessary certificate.	
Accident Prevention Program	**References:** There are additional rules for the accident prevention program in the following chapters: ➢ *Firefighters - WAC 296-305-01505, Accident prevention program.* ➢ *Longshore and Stevedore - WAC 296-56-60009, Accident prevention program.* ➢ *Logging - WAC 296-54-515, Accident prevention program.* ***WAC 296-800-140 Accident prevention program. Summary.*** *Your responsibility: To establish, supervise and enforce an accident prevention program (APP) that is effective in practice. (You may call this your total safety and health plan.)* ***WAC 296-800-14005 Develop a formal, written accident prevention program.*** You must: • Develop a formal accident prevention program that is outlined in writing. The program must be tailored to the needs of your particular workplace or operation and	**WAC 296-155-110 Accident prevention program.** (1) Exemptions. Workers of employers whose primary business is other than construction, who are engaged solely in maintenance and repair work, including painting and decorating, are exempt from the requirement of this section provided: (a) The maintenance and repair work, including painting and decorating, is being performed on the employer's premises, or facility. (b) The length of the project does not exceed one week. (c) The employer is in compliance with the requirements of WAC 296-800-140 Accident prevention program, and WAC 296-800-130, Safety committees and safety meetings. (2) Each employer shall develop a formal accident-prevention program, tailored to the needs of the particular plant or operation and to the type of hazard involved. The department may be contacted for assistance in developing appropriate programs. (3) The following are the minimal program elements for all employers: A safety orientation program describing the employer's safety program and including: (a) How, where, and when to report injuries, including instruction as to the location of first-aid facilities.	**WAC 296-307-030 What are the required elements of an accident prevention program?** (1) You must instruct all employees in safe working practices at the beginning of employment. Your instruction must be tailored to the types of hazards to which employees are exposed. (2) You must develop a written accident prevention program tailored to the needs of your agricultural operation and to the types of hazards involved. (3) Your accident prevention program must contain at least the following elements: (a) How, when, and where to report injuries and illnesses, and the location of first-aid facilities. (b) How to report unsafe conditions and practices. (c) The use and care of personal protective equipment. (d) What to do in emergencies. See WAC 296-307-35015 for emergency action plan requirements. (e) Identification of hazardous chemicals or materials and the instruction for their safe use. (f) An on-the-job review of the practices necessary to perform job assignments in a safe and healthful manner.

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	to the types of hazards involved. Note: The term "accident prevention program" refers to your written plan to prevent accidents, illnesses, and injuries on the job. Your accident prevention program may be known as your safety and health plan, injury prevention program, or by some other name. You must: • Make sure your Accident Prevention Program contains at least the following elements: – A safety orientation: ♦ A description of your total safety and health program. ♦ On-the-job orientation showing employees what they need to know to perform their initial job assignments safely. ♦ How and when to report on-the-job injuries including instruction about the location of first-aid facilities in your workplace. ♦ How to report unsafe conditions and practices. ♦ The use and care of required personal protective equipment (PPE). ♦ What to do in an emergency, including how to exit the workplace. ♦ Identification of hazardous gases, chemicals, or materials used on-the-job and instruction about the safe use and emergency action to take after accidental exposure. – A safety and health committee. (*WAC 296-800-130.*)	(b) How to report unsafe conditions and practices. (c) The use and care of required personal protective equipment. (d) The proper actions to take in event of emergencies including the routes of exiting from areas during emergencies. (e) Identification of the hazardous gases, chemicals, or materials involved along with the instructions on the safe use and emergency action following accidental exposure. (f) A description of the employer's total safety program. (g) An on-the-job review of the practices necessary to perform the initial job assignments in a safe manner. (4) Each accident-prevention program shall be outlined in written format.	

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	WAC 296-800-14020 Develop, supervise, implement, and enforce safety and health training programs that are effective in practice. You must: • Develop, supervise, implement, and enforce training programs to improve the skill, awareness, and competency of all your employees in the field of occupational safety and health. • Make sure training includes on-the-job instruction to employees prior to their job assignment about hazards such as: – Safe use of powered materials-handling equipment, such as forklifts, backhoes, etc. – Safe use of machine tool operations. – Use of toxic materials. – Operation of utility systems. ***WAC 296-800-14025 Make sure your accident prevention program is effective in practice.*** You must: • Establish, supervise, and enforce your accident prevention program in a manner that is effective in practice.		
Training	***WAC 296-800-130, safety Committees and Safety Meetings***	**WAC 296-155-110 Accident prevention program.** (5) Every employer shall conduct crew leader-crew safety meetings as follows: (a) Crew Leader-crew safety meetings shall be held at the beginning of each job, and at	**WAC 296-307-033 How often must safety meetings be held?** (1) Foreman-crew safety meetings must be held at least monthly or whenever there are significant changes in job assignments. These meetings must be tailored to the particular

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	Important: This rule requires you to have a method of communicating and evaluating safety and health issues brought up by you or your employees in your workplace. Larger employers **must** establish a safety committee. Smaller employers have the choice of either establishing a safety committee or holding safety meetings with a management representative present. There is a difference between a safety committee and a safety meeting. • Safety committee is an organizational structure where members represent a group. This gives everyone a voice but keeps the meeting size to an effective number of participants. • A safety meeting includes all employees and a management person is there to ensure that issues are addressed. Typically, the safety committee is an effective safety management tool for a larger employer and safety meetings are more effective for a smaller employer. ***WAC 296-800-13020 Establish and conduct safety committees.*** **You must:** **If: Then:**	least weekly thereafter. (b) Crew Leader-crew meetings tailored to the particular operation.	operation or activity occurring at the time. **WAC 296-307-09509 What orientation must employers provide for field sanitation?** You must provide each employee with verbal orientation on field sanitation facilities. The orientation must be understandable to each employee and must include: (1) The location of potable water supplies and the importance of drinking water frequently, especially on hot days; (2) Identification of all nonpotable water at the worksite and prohibition of the use of nonpotable water for sanitation purposes with an explanation of the hazards associated with using nonpotable water;

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	You employ 11 or more employees on the same shift at the same location — You must establish a safety committee **You must:** **(1) Establish a safety committee.** Make sure your committee: - Has employee-elected and employer-selected members. - The number of employee-elected members must equal or exceed the number of employer-selected members. **Note:** Employees selected by the employees bargaining representative or union qualify as employee-elected. - The term of employee-elected members must be a maximum of one year. (There is no limit to the number of terms a representative can serve.) - If there is an employee-elected member vacancy, a new member must be elected prior to the next scheduled meeting. - Has an elected chairperson - Determines how often, when, and where, the safety committee will meet **Note:** Meetings should be one hour or less,		

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	unless extended by a majority vote of the committee. If the committee cannot agree on the frequency of meetings, the department of labor and industries regional safety consultation representative should be consulted for recommendations. (See the resources section of this book for contacts.) **You must:** **(2) Cover these topics:** - Review safety and health inspection reports to help correct safety hazards. - Evaluate the accident investigations conducted since the last meeting to determine if the cause(s) of the unsafe situation was identified and corrected. - Evaluate your workplace accident and illness prevention program and discuss recommendations for improvement, if needed. - Document attendance. - Write down subjects discussed. **(3) Record meetings.** Prepare minutes from each safety committee and: - Preserve them for one year - Make them available for review by safety and health consultation personnel of the department of labor and industries.		
	References:		

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	There are additional rules for heat stress training in the following chapters: ➢ *Fire fighters - WAC 296-305-07017, First aid for wildland fire fighters.* ➢ *Hazardous waste –* – *WAC 296-843-20010, Train workers, supervisors and managers before work begins on the site.* – *WAC 296-843-20020, Training for postemergency response.* ➢ *Asbestos –* – *WAC 296-65-005 (10), Asbestos worker training course content.* – *WAC 296-65-007 (6), Asbestos supervisor training course content.*		
Other rules	**References:** There are additional rules for heat stress in the following chapters: ➢ *Firefighters - WAC 296-305-07017, First aid for wildland fire fighters.* ➢ *Emergency response - WAC 296-824-60010, Control hazards created by personal protective equipment (PPE).* ➢ *Compressed air –* – *WAC 296-36-160, Personnel facilities.* – *WAC 296-36-055, General operating requirements -- Temperature in working chamber.*		**WAC 296-307-10020 What must an employer do to prevent heat-related illness?** You must take appropriate measures to prevent heat-related illness that may be caused by employees wearing any required personal protective equipment.