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AFL-CIO

Peg Seminario, AFL-CIO,

Received 5-29-2019



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AMERICA'S UNIONS

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May 28, 2019

Mr. Glenn Shor
Department of Industrial Relations
Division of Occupational Safety and Health
1515 Clay Street, Suite 1901
Oakland, California 94612
Via Email at: ElectronicReporting@dir.ca.gov

Dear Mr. Shor:

I am writing on behalf of the AFL-CIO to urge Cal/OSHA to maintain the requirement of federal OSHA's May 12, 2016 Improve Tracking of Workplace Injury and Illnesses rule for larger establishments to submit detailed injury and illness data to Cal/OSHA. This data will assist the agency, workers, employers and public health officials in identifying dangerous workplaces, the types of injuries that are occurring and the hazards that cause them, and to take action to prevent them.

The AFL-CIO, a federation of 55 national unions, representing 12.5 million working people in this country, has a long and deep involvement with the injury recording and reporting requirements under the Occupational Safety and Health Act. The federation advocated for the inclusion of injury and illness recording and reporting requirements in the 1970 statute and participated in the development of the original recordkeeping requirements and the Bureau of Labor Statistics injury and illness statistical programs. Since the early 1970's we have participated in every major initiative to improve the workplace injury recordkeeping and reporting system and workplace injury and illness data.

The AFL-CIO, and many affiliated unions, actively participated in the rulemaking on OSHA's Improve Tracking of Workplace Injuries and Illnesses regulation, and we strongly support the 2016 final rule as originally issued. (81 Fed. Reg., May 12, 2016, p.29624).

Unfortunately, in January, 2019, the Trump administration wrongly revoked this important provision in the federal OSHA injury tracking rule, eliminating a source of rich and useful data for injury and illness prevention.

To assist Cal/OSHA in its assessment and deliberations on maintaining and implementing requirements for detailed injury data from larger establishments, I am submitting the comments and documentary evidence the AFL-CIO submitted

to federal OSHA in response to the 2018 proposed rule to eliminate these requirements. These comments and evidence set forth in detail the importance and utility of this detailed injury and illness information for improving worker safety and health.

California has always been a leader in worker safety and health. Cal/OSHA should continue this leadership and maintain the requirement to require large employers to submit detailed injury data to the agency. It should also make this information publicly available for use by workers, employers, researchers and public health officials for prevention. With this action, California can move forward to create a 21st Century safety and health surveillance and data system for improving worker safety and health.

Sincerely,

A handwritten signature in blue ink that reads "Peg Seminario". The signature is written in a cursive style with a large initial "P" and "S".

Peg Seminario
Safety and Health Director
AFL-CIO

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AMERICA'S UNIONS

September 28, 2018

Loren E. Sweatt
Deputy Assistant Secretary for Occupational Safety and Health
OSHA Docket Office
Room N-3653
U.S. Department of Labor
200 Constitution Avenue NW
Washington, DC 20210

Re: Docket No. OSHA-2013-0023, Tracking of Workplace Injuries and Illnesses

Dear Deputy Assistant Secretary Sweatt:

I am writing to express the strong opposition of the AFL-CIO to OSHA's proposal to revoke provisions of OSHA's recordkeeping regulations that require larger establishments to submit detailed injury and illness data to OSHA. (83 Fed. Reg., July 30, 2018, pp 36494-36507). This proposed action will make it harder to identify dangerous workplaces, the types of injuries that are occurring and the hazards that cause them, and to take action to prevent them. OSHA should abandon this backward looking, harmful proposal.

The AFL-CIO, a federation of 55 national unions, representing 12.5 million working people in this country, has a long and deep involvement with the injury recording and reporting requirements under the Occupational Safety and Health Act. The federation advocated for the inclusion of injury and illness recording and reporting requirements in the 1970 statute and participated in the development of the original recordkeeping requirements and the Bureau of Labor Statistics injury and illness statistical programs. Since the early 1970's we have participated in every major initiative to improve the workplace injury recordkeeping and reporting system and workplace injury and illness data.

On behalf of the AFL-CIO, I personally participated in expert reviews of workplace injury and illness reporting including the 1986 National Academy of Sciences Panel on Counting Injuries and Illnesses in the Workplace: Proposals for a Better System¹ and the Keystone National Policy Dialogue on Work-Related Illness and Injury Recordkeeping and the resulting OSHA rulemakings on injury recording and reporting.²

Most recently, I served as a member of the National Academies of Sciences, Engineering and Medicine Committee on Developing a Smarter National Surveillance

System for Occupational Safety and Health in the 21st Century, which issued a comprehensive study and recommendations on the subject.³

The AFL-CIO is also a major user of the injury and illness data that is collected through the injury recordkeeping and reporting system for policy and research purposes. In particular, we make extensive use of this data in the preparation of our annual report *Death on the Job: The Toll of Neglect. A National and State-by-State Profile of Worker Safety and Health in the United States*, which we have produced since 1992.⁴

The AFL-CIO, and many affiliated unions, actively participated in the rulemaking on OSHA's Improve Tracking of Workplace Injuries and Illnesses regulation, and strongly support the 2016 final rule. (81 Fed. Reg., May 12, 2016, p.29624).⁵ This rule is a groundbreaking initiative that brings OSHA's injury data collection, access and utilization into the 21st Century.

The final rule requires employers at establishments with 20 or more workers in higher hazard industries to report their injury data to OSHA annually in electronic form. Employers have been required to keep workplace injury records since 1971, and workers, unions and OSHA have had access to these records at the workplace upon request. However, there has been no way to get systematic, timely, direct access to this information.

Under the rule, all covered employers at establishments with 20 or more workers are required to report the summary injury information from the OSHA 300A. Larger establishments with 250 or more workers that are subject to OSHA's 1904 recordkeeping regulations are also required to report the detailed injury data from the OSHA 300 log and individual injury case reports (Form 301). Information that would reveal an individual worker's identity is not required to be submitted.

The rule, importantly, also strengthens anti-retaliation protections for workers who report injuries, prohibiting employers from discouraging or retaliating against workers for reporting injuries.

The preamble to the 2016 final rule also stated that it was OSHA's intention to make the establishment specific injury and illness data publicly available on its website, except for personally identifiable information in order to protect workers' privacy. (83 FR 29650).

The collection of this workplace injury and illness data and its public availability will provide information to workers, employers, the government and researchers on the extent of injuries and illnesses occurring in individual workplaces. For larger establishments, the detailed data will provide information on the types of injuries and the hazards that cause them. This information will assist efforts to target resources and attention to the most dangerous workplaces and the hazards and exposures responsible for job injuries, illnesses and deaths. It will also enable employers, workers and unions to benchmark performance at particular workplaces against others in the industry and assist in identifying and flagging emerging problems and evaluating trends. With resources devoted to worker safety and health severely limited and shrinking, the rule provides a powerful new tool for OSHA and the entire safety and health community to protect workers on the job.

Instead of moving forward to fully implement the rule and utilize this rich source of information and make it publicly available, under the Trump administration OSHA has reversed course. Bowing to business groups that oppose the rule and release of injury data, the agency now proposes to revoke the requirements for larger establishments to submit the detailed injury data from the OSHA 300 log and Form 301 case reports. At the same time, OSHA is refusing to publicly release the summary injury data it has already collected under the rule. This is totally contrary to the stated intent in the 2016 final rule and OSHA's past practice of releasing injury data collected under the OSHA Data Initiative in response to Freedom Information Act requests.

OSHA has claimed that the agency is proposing to repeal the detailed injury reporting requirements in order to protect worker's privacy and because the data is not useful to the agency. (83 FR 36497). These claims are cynical and false. The truth is the Trump administration is taking this action at the behest of industry groups who strongly oppose the 2016 injury tracking rule and want to keep workplace injury data secret. Instead of protecting workers, OSHA has sided with those employers who want to hide their workplace injuries and illnesses and keep workers, the public and even OSHA in the dark.

These actions to revoke key provisions of the injury tracking rule and to block public access to collected data gut the purpose and effectiveness of the 2016 final injury tracking rule. They eliminate an extremely valuable source of data for identifying and addressing hazardous working conditions and exposures that put workers at serious risk. They make it impossible for workers, employers, public health agencies, researchers and others to access and utilize injury and illness data at specific workplaces for injury prevention purposes in a timely manner. Weakening and undermining the injury tracking rule will undermine efforts to protect workers and lead to more unnecessary injuries, diseases and deaths.

1. Contrary to OSHA's unsupported claims, the collection of detailed injury and illness data and access to the information is highly useful and will greatly benefit worker safety and health.

In the preamble to the proposed rollback in the injury tracking rule, OSHA claims that the collection of detailed injury and illness data in the Form 300 and Form 301 has "uncertain benefits" (83 FR 36494) and will be of "speculative, uncertain enforcement value." (83 FR 36496). The agency argues that it has no prior experience with using Form 300 and Form 301 data to identify and target establishments. The agency claims that the summary data from the Form 300A which the agency is currently collecting, "gives OSHA the information it needs to identify and target establishments with high rates of work-related injuries and illnesses." (83 FR 36498).

These claims, which form the agency's stated basis for this proposal, mark a total reversal in the findings and conclusions OSHA made when it issued the final 2016 rule, which were based on substantial evidence and extensive public input. Without any new evidence, and totally disregarding the agency's earlier findings and conclusions, OSHA is acting arbitrarily to roll back and weaken this important worker safety and health regulation.

Contrary to OSHA's current claims, the collection of the detailed injury and illness data from large establishments is useful for a wide range of purposes and for a broad range of groups to improve worker safety and health. These include:

- **Targeting enforcement, compliance assistance and outreach**

As OSHA outlined in the preamble of the 2016 final rule, the collection of the detailed injury and illness data from the Form 300 and Form 301 "will provide establishment-specific injury and illness data for analyses that are not currently possible with the data sets from inspections, the ODI and reporting of severe injuries." (81 FR 29630). This detailed data will provide information on the types of injuries and illnesses and the hazards that cause them.

The data can be used to target OSHA's resources on workplaces with particular problems. For example, OSHA has identified healthcare as a high hazard industry, and workplace violence, ergonomic hazards, and exposures to bloodborne pathogens as serious risks in many healthcare settings. According to the latest BLS injury and illness data in 2016, private sector hospitals and nursing and residential care facilities respectively reported 228,200 and 164,300 injuries and illnesses, and reported injury and illness rates of 5.9/100 workers and 6.4/100, more than twice the national average.⁶ Presently, these large and growing sectors, which combined employed 8,528,400 workers according to BLS as of June 2018, receive little attention and oversight from the agency.⁷

In FY 2017, according to data provided to the AFL-CIO by OSHA, federal OSHA conducted only 516 inspections in the healthcare and social services sector (NAICS 62), a number that has been declining each of the last five years.⁸ According to BLS, as of the first quarter of 2018, this sector had more than 1.5 million private sector establishments, including 10,212 hospitals and 80,280 nursing and residential care facilities.^{9,10} With the detailed injury data from the OSHA 300 log and Form 301, OSHA could identify those larger healthcare establishments where there is a high risk of injury from workplace violence, ergonomic hazards and other particular hazards and target enforcement, special emphasis programs, compliance assistance and outreach to these workplaces.

Other government agencies have recognized the value of detailed injury and illness data for targeting prevention and outreach efforts. Washington State, which operates both an OSHA state plan and the state's workers compensation program, utilizes the detailed injury and illness data collected through its workers' compensation system, similar to the data contained in the Form 300 and Form 301, to develop a prevention index. The index identifies the most common and costly injuries and illnesses and the industry sectors with the greatest potential for prevention. As the Washington State Department of Labor and Industry (L&I) explained in a 2013 technical report, the prevention index and data "will identify and prioritize industry groups that have both a high rate and high count of occupational injury and illness, allow for the more efficient allocation of resources for prevention and research, and aid the development of policy, prevention, and safety goals that better address the exposures and events faced by workers in each sector."¹¹ (Attached).

The state utilizes the workers' compensation data in its consultation program to target outreach and assistance to the most hazardous industries and employers to help them identify and address serious hazards. For example, the Washington Department of Labor and Industries has formed a partnership with the state's logging industry and other parties to create the Logger Safety Initiative to improve safety and health and reduce injuries and illnesses in the logging industry, an industry with a high injury rate.¹² Under this voluntary initiative, the state's consultation program helps participating employers assess hazards and establish safety and health programs to reduce injuries. Detailed data from workers' compensation claims are used to identify traumatic injuries and to track the progress of participating employers.¹³

In Massachusetts, the state health department maintains the Massachusetts Sharps Injury Surveillance System, under which hospitals are required to report sharps injuries among hospital workers. The surveillance system is used to provide information on the magnitude and trends of sharps injuries in the state and to identify devices, procedures and departments most frequently associated with sharps injuries that should be considered priorities for intervention. The state health department also works with hospitals and health care workers to facilitate the exchange of information about successful sharps injury prevention programs and practices.¹⁴ (Attached).

At the Mine Safety and Health Administration (MSHA), OSHA's sister agency responsible for safety and health in mining, there has been a requirement for decades under 30 CFR Part 50 for mine operators to report detailed case data for every injury and illness to MSHA within a 10 day period. The data is required to be reported to MSHA using MSHA's Form 7000-1 which may be reported to MSHA manually or electronically through a secure website. (Attached). This form includes information on the type of incident (e.g. entrapment, mine fire, roof fall), type of operation, the cause/source of the injury and equipment involved, the part of body injured/affected, the employee's work activity and experience, and other information. The database containing that detailed information on every individual mining injury since 1983 is available to be downloaded and searched on the government's data portal, www.data.gov.

MSHA routinely uses this information to identify patterns of injuries and emerging problems and to alert the mining community about hazards that need to be monitored and addressed. These alerts are circulated to the mining community and posted on MSHA's website.¹⁵ For example, in a four-week period in 2016, mine operators reported a number of serious injuries resulting from electrical hazards. In response to these reports, MSHA took action and issued an electrical safety alert to notify the mining community about these injuries and to provide best practice information for preventing them.¹⁶ During that year, similar hazard alerts were issued for roof falls, proximity detection hazards, and a number of other serious hazards in response to the detailed injury reports submitted by mine operators.^{17,18}

- **Hazard identification and control by workers and unions**

Under OSHA's injury recordkeeping regulations (29 CFR 1904.35), upon request, workers and their representatives have the right to review and receive copies of OSHA 300 logs at the workplace. Workers also have the right to receive a copy of the

complete Form 301 case report of injuries or illnesses they experience, and worker representatives have the right to receive the information recorded on the right side of the Form 301 that describes the injury and how it occurred. Unions use this information both at individual worksites and across companies to identify particular problems and address them.

However, under the OSHA recordkeeping regulations, access to these records is establishment by establishment. There is no obligation for employers to provide this information to workers or unions on a corporate-wide basis, or in any particular form. Some employers resist providing this information, and where workers have no authorized representative, fearing retaliation, they are often reluctant to ask for this information.

As OSHA noted in the preamble to the 2016 final rule, the reporting of the detailed injury and illness data to the agency in an electronic format, and access to this data through the OSHA website, would provide workers ready access to this data in a useable form for hazard identification and other purposes, without having to request the information from the employer. (81FR29630). If OSHA now repeals these reporting requirements, there will be no direct way for workers and their representatives to get access to this important safety and health data, undermining prevention efforts.

- **Hazard identification and control and benchmarking by employers**

The detailed injury and illness data in the OSHA 300 log and Form 301 is a critical source of information for employers' safety and health programs. Indeed, in OSHA's Recommended Practices for Safety and Health Programs, review of this data is one of the first steps recommend for hazard identification and assessment.¹⁹ The data is also a useful tool for identifying trends and tracking progress. This information is also useful for employers who want to benchmark their safety and health performance against others in the industry. As OSHA pointed out in the preamble of the final rule, under OSHA's previous injury reporting regulation, employers only had access to detailed injury and illness data for their own establishments, and summary data from the ODI for those establishments which reported. (81 FR 29630). Detailed injury data was available only at the industry level through BLS reports.

With the detailed data, employers could compare their injury records and experience with others in the industry as one measure of performance. Such benchmarking is already in progress on a voluntary basis in some limited sectors. For example, the American Petroleum Institute conducts a voluntary survey of occupational injuries and illnesses and fatalities in the petroleum collecting data from the OSHA recordkeeping forms according to BLS guidelines. Participating companies have access to the information collected in this survey and are encouraged by API to utilize it to benchmark their performance.²⁰

The Occupational Health and Safety Network (OHSN) operated by NIOSH is another example of how detailed injury and illness data is used by employers for hazard prevention and benchmarking.²¹ (Attached). OHSN was designed specifically to assist healthcare facilities monitor work-related injuries and exposures. The electronic system, which is voluntary, provides a portal for healthcare employers to upload information into

a centralized data base and to track common, high risk preventable injury and exposure events, including sharps injuries, patient handling injuries and workplace violence. The network provides access to resources for identifying and controlling these hazards. Participating employers can use the data collected in the network to benchmark their performance against other employers in the industry. NIOSH also has utilized the data collected through OHSN to analyze the occurrence of these common serious injuries, and the conditions that cause them.²² (Attached).

Unfortunately, NIOSH is discontinuing this important project. According to a notice on the NIOSH website, the Office of Management and Budget (OMB) placed restrictions on NIOSH's ability to use the OHSN data. Since the data was not representative of all healthcare facilities, OMB would not approve the use of the data for inter-facility comparisons, a main component of the OHSN model. As a result, NIOSH is no longer accepting new enrollees into the project and will retire the system in 2019.²³

The detailed data from the Form 300 and Form 301 could provide an alternative source of data for monitoring injuries in the healthcare sector and benchmarking performance. Many of the healthcare subsectors are covered by the injury reporting rule, including hospitals, nursing care facilities and residential care facilities. All large establishments (250 or more employees) in these covered sectors are required to report the detailed data so there is no problems with the data being representative. NIOSH and OSHA could work collaboratively to set up a system similar to OHSN and provide tools to employers to help them analyze and track injuries and benchmark performance as was done under the OHSN system.

- **Injury and Illness Prevention Research**

The detailed injury and illness data from the Form 300 and Form 301 provides an invaluable source of information for research on safety and health hazards and injury and illness causation and prevention. While researchers can gain access to injury and illness data maintained by the BLS, under strict confidentiality requirements, the BLS survey only covers a sample of employers and does not allow easy identification and tracking of injury and illness experience at individual establishments.

As noted above, since 1978 OSHA's sister agency MSHA has required the submission of detailed injury and illness data for each work-related injury and illness that occurs in the mining industry. These data must be recorded on the MSHA Form 7000-1 and submitted to MSHA within 10 days of the occurrence. Except for a few fields that include personally identifiable information, all of the case specific information is available in a downloadable data base on data.gov. In addition, NIOSH makes the same data, and other mining data, available on its website in SPSS and dBase IV database formats for use by researchers.²⁴ To assist researchers in utilizing these rich data sets, NIOSH has produced the MSHA Data Users Guide (MUG), a detailed, comprehensive manual that provides documentation of all variables and codes and to describe the most important uses and limitations of these data.²⁵

For many years, NIOSH and academic researchers have utilized the MSHA collected injury and illness to data to conduct research on the extent and causes of mining injuries and illnesses and methods to prevent them, and to track progress that has been

made. Recent research includes studies on off-road truck-related accidents, injuries from front-end loaders and collision accidents involving underground mining equipment—all major sources of serious injuries.^{26,27,28}

The State of Washington also makes extensive use of detailed injury and illness data for safety and health research purposes. The state's Safety & Health Assessment & Research for Prevention (SHARP) program, located in the Department of Labor and Industry works closely with the state OSHA plan and the state workers' compensation agency to conduct research to identify safety and health hazards and exposures and effective practices, policies and control measures for prevention. Since Washington State operates both a state workers' compensation fund and a state OSHA plan, SHARP has access to a wealth of injury and illness and related cost data for the majority employers in the state. SHARP has utilized this data to conduct detailed research on injuries and illnesses among workers in the state. These include recent studies on injuries among commercial janitors, heat exposure and injury risk among outdoor agriculture workers, and injury risk among temporary workers.^{29,30,31} (Research findings attached).

It should be noted that Washington State is quite unique, since it is the only state which operates both an OSHA state plan and a workers' compensation fund, and maintains a robust research program to utilize the data that is collected in both of these programs. There are no other comparable sources of establishment level injury and illness data available in other states or at a national level that are readily accessible for research purposes.

OSHA collection of the detailed injury and illness data from the Form 300 and Form 301 covering all 50 states, and access to this data would provide researchers and state agencies a comprehensive rich source of data for safety and health assessment and research purposes. In the absence of OSHA collecting this data, there is no way to gain access to this establishment level data on workplace injuries and illnesses and their causes. Repeal of the requirement for large establishments to report injury and illness data to OSHA would undermine efforts to protect workers and prevent injuries and illnesses.

2. The OSHA proposal inexplicably ignores the most recent best available evidence on the benefits and utility of OSHA's 2016 Improve Workplace Injury and Illness Tracking Rule presented in the 2018 National Academies of Sciences, Engineering and Medicine Study Report *A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*.

The value and utility of the collection of injury and illness data required by OSHA's 2016 Improve Tracking of Workplace Injuries and Illnesses final rule was recognized by the National Academy of Sciences, Engineering and Medicine in its recent 2018 study report, *A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*. The report was the product of a NASEM study, commissioned by NIOSH, BLS and OSHA to evaluate current surveillance programs and initiatives and develop recommendations for a more coordinated, cost-effective set of approaches for occupational safety and health surveillance in the United States.

The study panel, on which I served, included experts from a wide range of disciplines, and conducted a comprehensive review and evaluation of existing occupational safety and health surveillance systems. The study report is a consensus report, with the conclusions and recommendations supported by all panel members.

OSHA's 2016 electronic injury reporting requirements contained in the 2016 final injury tracking rule were included in the review, presented in chapter six of the report as one of several "promising developments and technologies." The panel and the study report strongly endorsed the electronic reporting rule, noting that the injury and illness data collected under the rule had broad and important uses:

The new rule will provide an extensive new data source regarding injury and illness that can be used by OSHA, NIOSH, state agencies, employers, workers, and researchers for a range of surveillance and prevention purposes.

[T]he information collected and available under the electronic reporting rule holds potential value for employers, workers, public health agencies, researchers, and others. Employers will be able to use the information to compare their experience with others in the industry. Workers will be able to have ready access to an employer's injury reports prior to seeking employment and while employed to assess the safety record of the employer. Public health agencies will be able to determine if there are types of injuries or illnesses occurring in the workplaces of particular industries. Public health departments will be able to initiate intervention efforts, including educational efforts and adjustments to public health standards in industries such as health care facilities, food establishments, or schools, which are regulated by the states. And researchers will have ready access to a large database of injury information to assist them with better characterizing high risks as well as assessing the effectiveness of interventions.

The electronic reporting initiative also provides an opportunity to create a new avenue for expanding and targeting outreach to employers, particularly smaller employers, to assist them with hazard identification and prevention efforts. The agency could provide automatic feedback or reports to employers on how their injury rates compare with others in the industry. (p.177–178).

OSHA will have access to detailed data not available to the agency from the BLS-SOII efforts—data useful for prioritizing program efforts for targeting inspections and for efforts to support employers in compliance. (p. 179).

The panel concluded:

The OSHA electronic reporting rule will serve a key role by providing data essential for injury and illness surveillance not available from the SOII. These data are useful for targeting interventions and prevention efforts that focus on hazardous industries, workplaces, and exposures as well as high-risk groups. The rule also provides new opportunities to conduct outreach and to provide tools and assistance to employers who need to identify and address hazards at individual worksites. Coordination and integration of data-collection efforts by

OSHA and BLS will prevent duplication of reporting by some employers to both agencies which otherwise may undermine support for this new initiative.

New data tools, including development of off-the-shelf software for use by employers or tools for OSHA to provide feedback directly to employers, will also be important in building support for this new initiative. Increased collaboration among OSHA, BLS, NIOSH, and state agencies will ensure the maximum use of this important new data source on work-related injuries and illnesses. (pp. 179–180).

The panel also presented concrete recommendations to OSHA and other agencies on steps that the agencies should take to make the most effective use of the data.

Recommendation E: OSHA, in conjunction with BLS, NIOSH, state agencies, and other stakeholders, should develop plans to maximize the effectiveness and utility of OSHA's new electronic reporting initiative for surveillance. These should include plans to provide ongoing analysis and dissemination of these data and to minimize duplication of reporting by employers.

In the near term:

- To avoid duplicate reporting, OSHA and BLS should integrate data-collection efforts so that employers selected in the annual BLS sample for SOII but reporting electronically to OSHA need not make separate reports to BLS. This will require that a unified reporting form include requiring race and ethnicity in submitted case reports.
- OSHA should provide timely and automatic feedback to employers that provides comparative information specific to the employer and others in that industry.
- OSHA should develop a publicly available and easily searchable injury and illness database based on the electronic reports.

In the longer term:

- OSHA and NIOSH should work with stakeholders to develop software and other tools and materials that facilitate further establishment-level analysis of injury data with specific attention to enabling effective use by employers as well as others to identify hazards and job-specific issues for prevention. With experience from participants in this electronic reporting, OSHA should explore feasibility to expand electronic reporting to all employers required to maintain OSHA logs. (p. 265-266).

Inexplicably, OSHA's new proposal to revoke key provisions of the injury tracking rule totally ignores the 2018 NAS study report and its conclusions and recommendations. While the preamble to the proposed rule makes note of the report, citing it as evidence in support of the proposal to require employers to include the Employer Identification Number (EIN) in their data submissions, there is no mention of the comprehensive review, findings and recommendations presented on the 2016 final injury tracking rule. The failure to consider the NASEM review in the development of the proposed rule

revoking the detailed injury data reporting requirements demonstrates that OSHA's action is arbitrary and has failed to consider the best available evidence on the utility of the data and worker safety and health benefits of the 2016 final rule.

3. The employee privacy concerns cited by OSHA are unfounded: The 2016 final rule includes adequate safeguards to protect workers' privacy.

In both the preamble to the 2018 proposed rule and press release announcing the proposal, OSHA cites concerns that the agency will be unable to ensure worker privacy if it implements the detailed injury and illness reporting requirements of the rule. Specifically, without any evidence, and based upon pure conjecture, the agency speculates that a court might force the release of personally identifiable information (PII) in response to a future request under the Freedom of Information Act for the collected injury and illness data. These claims and the agency's arguments are without merit.

The rulemaking on the Improve Workplace Injury and Illnesses Tracking rule carefully considered issues of worker privacy. (81 FR 29657–66). The preamble to the 2016 final rule includes a comprehensive review of the privacy issues raised in the collection of detailed injury and illness data and the final rule was crafted to provide a series of strong safeguards to protect the release of personally identifiable information (PII).

First, under the final rule, OSHA does not require employers to submit the employee name or other personally identifiable information from the Form 300 and Form 301. Specifically, employers are not required to submit, and in fact are clearly directed not to submit, the data field from the form 300 with the employee name, and the fields from the Form 301 that include the employee's name and address (fields 1 and 2) and name of the health care professional that provided treatment, and the location of treatment if provided offsite (fields 6 and 7). (1904.41(b)(2)).

Second, for other data collected from the Form 301 that might allow the employee to be identified (i.e. date of birth, date hired, gender, and information on emergency treatment or hospitalization), OSHA has announced that the agency considers this data to be confidential and that the agency will not post this data or release it in response to FOIA requests. (81 FR 29650). Attached is a set of the OSHA 300A, 300 and 301 forms color-coded by the AFL-CIO to identify how OSHA planned to collect and release the data contained in the different data fields in order to prevent the release of PII and to protect worker privacy.

Third, as a backstop to protect worker privacy, the agency stated that it would scrub all the data submitted to ensure that personally identifiable information was not included in other data fields and released to the public, by utilizing computer software employed by other agencies that electronically collect and process other similar large sources of data. (81 FR 29662).

To prevent employers from mistakenly recording personally identifiable information in data fields on the right side of the OSHA 301 that are subject to public release, the form includes a specific instruction to employers not to include any personally identifiable information pertaining to the worker(s) involved in the incident (e.g. no names, phone numbers, or SSNs).

Ignoring the extensive record and findings in the prior rulemaking, and without any new evidence, OSHA now claims that even with these measures in place, the agency cannot ensure that it can protect workers personally identifiable information.

We point out that other federal government agencies operating under similar statutory authorities, including the Freedom of information Act, collect and utilize similar injury and illness data without compromising worker privacy. As noted earlier, OSHA's sister agency MSHA requires the submission of detailed data on every work-related injury, illness and fatality that occurs in the mining industry and provides access to this data on its website in both a searchable and downloadable form. Under the MSHA regulations, mine operators must fill out and submit a form 7000-1 for each injury, illness and fatality within seven days of the occurrence. The form 7000-1 includes fields for a wide range of information about the incident similar to, but more extensive than, the information recorded on the OSHA form 300 and 301. All of this information must be submitted to MSHA. MSHA scrubs the data that is personally identifiable information, which represent only a few information fields, and then releases all of the other reported information in a database posted on the MSHA website.

Attached is an MSHA 7000-1 form color-coded to indicate the information that is reported to MSHA and the information MSHA withholds from release to protect PII. Also attached is a spreadsheet with a sample of mine injury and illness data from the MSHA mine accident data file, downloaded from the MSHA website, to illustrate the data that is reported by mine operators and contractors and made available by MSHA.

As described in MSHA's Privacy Impact Assessment Questionnaire for FY 2017, the agency maintains strict controls to prevent the release of any personally identifiable information it collects.³² (Attached).

There are security controls in place to prevent database contamination should nefarious acts be taken against the front-end website. The information has to be reviewed by at least three approving authorities prior to it being introduced and or uploaded into the appropriate database for further analysis and data manipulation. Data extracts are redacted of the PII prior to being released for public consumption.

There are submitting controls in place on the online forms themselves starting with the user community has to have an authenticated user ID and password in order to submit a form for consideration into the staging area, i.e., the approval process for upload to the database. The compensating controls have not allowed any direct access of the data into the backend database queries to take place. Only after the final authorized approval does data get loaded into the database. The three stages of review and approval have to be accomplished before upload of that record is permitted. No sequel injection into the backend database is directly possible through the staging of the data process that has been implemented. No direct data extracts from the database is allowed either. As the data is routed through approving authorities to ensure the recipient is permitted to receive the data in question.

With these controls and procedures in place MSHA has effectively and successfully collected detailed mine injury and illness data for years and made this data easily and widely available in a timely manner to the mining safety and health community for research and prevention purposes without compromising workers' privacy.

OSHA should collaborate with MSHA, NIOSH and other agencies that have a demonstrated commitment and capability to collect and utilize injury and illness data, while protecting employee privacy, and institute similar procedures for the collection, sharing and utilization of injury and illness data reported on the OSHA Form 300 and Form 301.

4. The centralized collection of injury and illness data by federal OSHA is the most efficient and cost-effective way to compile and utilize the data for prevention purposes.

Under OSHA's 1904 injury and illness recordkeeping regulations, state plans are required to adopt injury recording requirements that are identical to federal OSHA. States must also adopt injury reporting requirements adopted by federal OSHA, but are permitted to require the reporting of additional information with federal OSHA's approval (81 FR 29687–8) as a number of states have done in the past.

Under OSHA's previous injury reporting system, the ODI, in order to streamline the submission of data by employers and the utilization of data by state OSHA agencies, OSHA operated a centralized reporting system. States had the option of participating in this centralized data collection system, and receiving relevant data for their state from federal OSHA, or operating their own reporting systems.

In the implementation of the injury tracking rule, OSHA has continued to offer states the same option of receiving data collected by OSHA through a centralized portal or developing their own electronic reporting systems.³³

The collection of data through a centralized portal is the most cost efficient way to assemble this data, since it does not require each individual state to duplicate efforts and incur the cost of setting up a separate parallel system. In addition, it is easier and more efficient for employers who can submit all of their data through a single portal for collection in a unified system.

In the final economic analysis (FEA) on the 2016 final rule, OSHA estimated the cost to the government for establishing the web portal and collecting the injury and illness data through a centralized system at \$1,545,162 for the first year, and \$1,279,260 for each subsequent year of operation. (81 FR 29684). According to OSHA's cost estimates presented in the preliminary economic analysis (PEA) on the proposed rule, the cost to the government for collecting the detailed injury and illness data on the Form 300 and Form 301 from large establishments is quite small—\$52,754 per year—representing just four percent of the government's cost for the operation of the system. (83 FR 36503). The majority of the overall costs to the government are attributable to the development and operation of the portal, which must be maintained to collect the summary injury and illness data from the OSHA form 300As, even if OSHA repeals the detailed injury reporting requirements of the rule.

If OSHA indeed proceeds to repeal these detailed data reporting requirements, the impact on state plans will be significant. Any state that decides to continue to maintain these requirements would have to set up a separate reporting system and portal to collect this data from employers in their state. As OSHA's economic analysis shows, the cost of setting up a parallel system in each state would be significant.

At least in one major state, California, there are certain to be efforts to maintain the reporting requirements in the original 2016 final rule, if OSHA moves to repeal or weaken the rule's provision. Recently enacted legislation (AB 2334) directs the state agency to establish an advisory committee to evaluate how to implement the changes necessary to protect the goals of the 2016 Improve Tracking of Workplace Injuries and Illnesses rule, if federal OSHA eliminates or substantially diminishes the rule's requirements.³⁴

5. Requiring the employer identification number (EIN) on the injury and illness data submission will improve the utility of the data and reduce duplication in reporting.

The July 30, 2018 Federal Register notice includes a proposal to require employers to include their employer identification number (EIN) in their injury and illness data submissions. The inclusion of the EIN will make the data more useful, allowing OSHA and other data users to more accurately identify the establishments and employers associated with the reports. Moreover, the inclusion of the EIN could help reduce duplication of reporting. There is a large overlap in the employers that are subject to the injury reporting requirements that are also included in the survey sample for the BLS Survey of Occupational Injuries and Illnesses. The inclusion of the EIN would allow OSHA and BLS to coordinate their data collection efforts, with the data collected by OSHA available for use in the BLS survey, and obviate duplicate reporting by employers to both DOL agencies.

The NASEM study report on occupational safety and health surveillance recommended this type of coordination and the AFL-CIO strongly supports the addition of this requirement to the injury and illness reporting rule.

6. OSHA should maintain the rule's requirements to report the summary injury data and anti-retaliation provisions.

The July 30, 2018 proposal to revoke the detailed injury and illness reporting requirements for large establishments does not propose modification to the 2016 final rule requirements that require all covered employers to submit summary injury and illness data and that strengthen anti-retaliation protections for workers who report injuries and illnesses. The AFL-CIO strongly supports these provisions and OSHA's decision to maintain them.

OSHA has made clear in the July 30, 2018 Federal Register notice that this rulemaking only pertains to the proposed revocation of the detailed injury reporting requirements for large establishments and that the agency is only seeking comments on these provisions. (83 FR 36497). However, we note that some employer groups have expressed disappointment and dismay that OSHA's proposed rollback does not include

weakening changes for these parts of the injury tracking rule, and are pressing the Trump administration to revoke the entire 2016 rule. They argue that injury and illness data should not be used by OSHA or others for safety and health purposes and that anti-retaliation protections provided under 11(c) are sufficient for protecting workers who report injuries.

These provisions of the final rule, like the detailed injury and illness reporting requirements, are critical to protecting and improving worker safety and health as OSHA outlined in the preamble to the 2016 final rule. They also have a track record of success. OSHA has been collecting summary injury and illness data under the ODI since 1996 that the agency has utilized for its site-specific targeting program. Since 2005, the public has had access to this data. During all this time there were no problems or complaints from employers about the collection of the data. Similarly, since 2012 OSHA has made clear that retaliation against workers who report injuries and policies or practices that discourage reporting may constitute violations of OSHA's 1904 recordkeeping regulations, in addition to being violations of section 11(c).³⁵ The 2016 rule simply clarified and codified this long-standing policy. During this time, and since the anti-retaliation provisions of the injury tracking rule went into effect on December 1, 2016, there has been no evidence that these provisions have been onerous or problematic. To the contrary, they have been important measures to protect workers from retaliation and to address systematic employer policies that discourage and suppress injury reporting.

OSHA has correctly decided to maintain the requirements for summary injury and illness data and anti-retaliation protections, and should not engage in any further action to weaken or revoke these requirements in response to employers' ideological demands.

7. Conclusion

Nearly 50 years after the enactment of the Occupational Safety and Health Act, the toll of work-related injuries, illnesses and deaths continues to be unacceptably high. Each year tens of thousands of workers die due to job injuries and diseases and millions more are injured and made ill. In recent years, progress in reducing job fatalities has stalled and there are signs that job deaths may now be on the rise. At the same time, government resources devoted to addressing workplace safety and health hazards and preventing injuries and illnesses are shrinking. New and innovative approaches are required to target efforts on the most serious hazards and dangerous workplaces and expand their impact.

OSHA's 2016 Improve Tracking of Workplace Injuries and Illnesses final rule is a groundbreaking initiative that provides OSHA, workers, employers, public health authorities, research and the public ready access to workplace injury and illness data to help identify serious hazards and prevent injuries, illnesses and deaths. The rule brings OSHA's injury and illness data collection, access and utilization into the 21st Century.

OSHA's proposed action to revoke the requirement for large establishments to report detailed injury and illness data guts the purpose and the effectiveness of the final rule. Revoking this requirement eliminates an invaluable source of information for identifying

and addressing hazardous working conditions and exposures that put workers at serious risk. It will undermine efforts to protect workers and lead to more unnecessary injuries, illnesses and deaths.

OSHA should withdraw this harmful proposal, and move forward and fully implement the 2016 final rule.

Sincerely,



Peg Seminario,
Safety and Health Director
AFL-CIO

Attachments

Opeiu #2

PS/pzb

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AFL-CIO Comments on Tracking of Workplace Injuries and Illnesses Proposed Rule – September 28, 2018

(RIN 1218-AD17)

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April 2013



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Table 26: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Work-related Musculoskeletal Disorders”, 2002-2010.

Table 27: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Struck By/Against”, 2002-2010.

Table 28: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Fall on Same Level”, 2002-2010.

Table 29: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Fall from Elevation”, 2002-2010.

Table 30: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Overexertion”, 2002-2010.

Table 31: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Caught In/Under/Between”, 2002-2010.

Table 32: Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for “Motor Vehicle”, 2002-2010.

REPORT SUMMARY

Background: Surveillance data that systematically evaluates occupational injury and illness by industry are relatively scarce, as are resources for prevention. Prioritizing industries for prevention efforts based on a high rate and high count of workers' compensation claims highlights where these injuries are occurring and where the most benefit of prevention efforts could be gained. This study examines which industry groups are at high risk for seven costly and common injury types and establishes a basis for efficient targeting of prevention resources.

Methods: Washington State Fund (SF) compensable workers' compensation compensable claims from 2002-2010 were analyzed. Payroll hours were used to determine claims' incidence rates by industry group per 10,000 FTE. Claims were analyzed by seven aggregated injury types. We used a prevention index to rank the industry groups for each of the injury types, and to rank the industry groups within their NORA Sector. We also used the prevention index to rank Washington Department of Labor and Industries SF workers compensation risk classes. Industry groups were limited to those who had reported hours in 6 or more of the nine years of the study period, with ≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year during the study period. Over the nine year period of the study there were 262 NAICS industry groups that met these criteria.

Results: Between 2002-2010, there were 267,581 compensable Washington SF claims, accounting for over 11 billion dollars in direct workers' compensation costs. For 262 industry groups that met inclusion criteria, there were 267,420 compensable claims, and 53,075,809 days of time loss (TL). Seven common, high cost injury types were identified – “Work- Related Musculoskeletal Disorders” (“WMSDs”), “Fall from Elevation”, “Fall on Same Level”, “Struck By/Against”, “Overexertion”, “Caught In/Under/Between”, and “Motor Vehicle” related claims. These seven injury types accounted for 87.8% of all compensable SF claims. The top ranked industries for each injury type, and in each NORA Sector were established by prevention index are presented.

By prevention index, for “All Injury Types” combined, the top 5 industries for research and prevention were:

- 2381 Foundation, Structure and Building Exterior Contractors,
- 2361 Residential Building Construction,
- 2383 Building Finishing Contractors,
- 4841 General Freight Trucking, and,
- 2382 Building Equipment Contractors.

Four of these top 5 were in the Construction Sector and 1 in the Transportation, Warehousing & Utilities Sector. These 4 Construction Industry Groups appear highly ranked across nearly every injury type (Building Equipment Contractors does not appear in the top 25 for “Fall on Same Level” nor in “Caught In/Under/Between”; and Residential Building Construction does not appear in the top 25 for “Motor Vehicle”).

By prevention index, for “WMSD” injuries, the top 5 industries for research and prevention were:

- 2381 Foundation, Structure, and Building Exterior Contractors,
- 2382 Building Equipment Contractors,
- 6231 Nursing Care Facilities,
- 2383 Building Finishing Contractors, and,
- 2361 Residential Building Construction.

By prevention index, for “Struck By/Against” injuries, the top 5 industries for research and prevention were:

- 6232 Residential Mental Retardation, Mental Health and Substance Abuse Facilities,
- 2381 Foundation, Structure, and Building Exterior Contractors,
- 2361 Residential Building Construction,
- 1133 Logging, and,
- 6243 Vocational Rehabilitation Services.

By prevention index, for “Fall on Same Level” injuries, the top 5 industries for research and prevention were:

- 2381 Foundation, Structure, and Building Exterior Contractors,
- 5617 Services to Buildings and Dwellings,
- 4841 General Freight Trucking,
- 6232 Residential Mental Retardation, Mental Health and Substance Abuse Facilities, and,
- 6231 Nursing Care Facilities.

By prevention index, for “Fall from Elevation” injuries, the top 5 industries for research and prevention were:

- 2381 Foundation, Structure, and Building Exterior Contractors,
- 2383 Building Finishing Contractors,
- 2361 Residential Building Construction,
- 1113 Fruit and Tree Nut Farming, and,
- 4841 General Freight Trucking.

By prevention index, for “Overexertion” injuries, the top 5 industries for research and prevention were:

- 2381 Foundation, Structure, and Building Exterior Contractors,
- 2361 Residential Building Construction,
- 2383 Building Finishing Contractors,
- 4841 General Freight Trucking, and,
- 4842 Specialized Freight Trucking.

By prevention index, for “Caught In/Under/Between” injuries, the top 5 industries for research and prevention were:

- 3219 Other Wood Product Manufacturing,

- 1133 Logging,
- 3323 Architectural and Structural Metals Manufacturing,
- 3211 Sawmills and Wood Preservation, and,
- 2381 Foundation, Structure, and Building Exterior Contractors.

By prevention index, for “Motor Vehicle” injuries, the top 5 industries for research and prevention were:

- 4841 General Freight Trucking,
- 4842 Specialized Freight Trucking,
- 5617 Services to Buildings and Dwellings,
- 1133 Logging, and,
- 2389 Other Specialty Trade Contractors.

Construction industry groups continue to be at high risk for occupational injuries. Non-construction industry groups, 1133 Logging (Agriculture, Forestry & Fishing Sector) and 4841 General Freight Trucking (Transportation, Warehousing & Utilities Sector), also appear highly ranked in each of the top seven injury types (as do other trucking industry groups).

Conclusions: Efficient targeting of resources for prevention is necessary to make the most impact on the burden of occupational injury and illness, and ranking industries for prevention based on claim rate and count can help to prioritize resource allocation for maximum benefit. High risk industry groups identified by prevention index include those in the Construction Sector (NAICS 23), Residential Mental Health Facilities (6232), Nursing Care Facilities (6231), Logging (1133), Trucking industry groups (4841 and 4842), Waste Collection (5621), and Services to Buildings and Dwellings (5617). Using the injury type data and the PI rankings together provides information for effective targeting of prevention efforts and to help inform the setting of policy and research agendas in Washington State.

INTRODUCTION

Occupational injuries and illnesses are common, costly, and a burden to workers and employers. Resources for prevention are limited, and there is a need for data to better target research and prevention activities to maximize their impact. There is relatively little published research on occupational injury and illness surveillance by industry other than the BLS(1). There is little data that characterizes the severity of occupational injury and illness related to direct workers compensation costs and time loss days.

The aim of this report is to identify and prioritize industries in Washington State for occupational injury and illness research and prevention based on a 'prevention index' ranking of industries. The prevention index is the average of the industry's ranking by number of workers' compensation compensable claims (how common are the injuries), and that industry's compensable claims rate (how high is the worker risk).

Ongoing efforts to focus on industry rely on several methods of grouping employer accounts. The North American Industry Classification System (NAICS)(2) defines 20 sectors(3). The National Occupational Research Agenda (NORA)(4) is a partnership program between the National Institute for Occupational Safety and Health (NIOSH)(5) and universities, businesses, labor and other stakeholders, to promote and improve occupational health and safety research and workplace practices. NORA aggregates the 20 NAICS sectors into 10 Sector groups(6) and NIOSH created NORA Sector Councils to establish goals and priorities for research and prevention efforts in each sector(6).

Previous efforts to prioritize Washington State industries for injury prevention reported rankings for seven common costly occupational injury types and identified several NAICS industry groups that ranked highly on the prevention index (PI): NAICS 2381 Foundation, Structure, and Building Exterior Contractors, NAICS 4841 General Freight Trucking, and NAICS 2361 Residential Building Construction(7). This study uses the established PI methodology to rank industry groups by injury type, by NORA Sector, and by Washington SF risk classes for claims between 2002 and 2010. Updated rankings, including NORA Sector data, will identify and prioritize industry groups that have both a high rate and high count of occupational injury and illness, allow for

the more efficient allocation of resources for prevention and research, and aid the development of policy, prevention, and safety goals that better address the exposures and events faced by workers in each sector.

METHODS

Washington's Workers' Compensation System

In Washington State, non-federal employers are required to obtain workers' compensation insurance through the Department of Labor and Industries' (L&I) industrial insurance system, unless they meet specific requirements to self-insure, or are covered by an alternative workers' compensation system (e.g. Longshore and Harbor Workers' Compensation Program). L&I administers the State Fund (SF), an industrial insurance program that provides coverage for approximately two-thirds of Washington 3.5 million workers(8). The SF generally does not cover self-employed workers and other excluded types of workers(9), though elective coverage is available. Outside of the SF, there are approximately 450 self-insured (SI) entities (individual companies or groups of companies) that are not included in the State Fund insurance pool.

Workers' Compensation Databases & Claim Information

Data from both SF and SI programs are collected and entered in centralized databases at L&I. These systems include: administrative information necessary to adjudicate a claim; identification of the employer and injured worker; codes characterizing the injury or illness; other necessary medical information; costs associated with disability payments, wage replacement, and pensions; billing information for health care providers, procedures, and treatment; and physician diagnoses codes. Information on SI claims is often incomplete regarding cost and time loss, and therefore SI claims were excluded from this analysis.

Claim costs for closed claims reflect actual paid costs. For claims that are not closed, costs reflect actual totals paid to date plus case reserve estimates for future costs associated with the claim. Indirect costs (to the employer and worker, e.g. lost or reduced productivity, employee turnover, worker psychosocial outcomes) and the administrative costs of managing a claim are not included in the claim costs.

Claims' Coding

In Washington State, a physician and worker initiate a workers' compensation claim by filing a Report of Industrial Injury or Occupational Disease (RIIOD) form, which includes the workers' demographic information, employment and wage information, and a brief description of the incident. The physician provides a medical diagnosis (with ICD-9) code, subjective and objective information regarding the diagnosis, and a diagnostic and treatment plan.

All Washington WC SF claims are coded for nature, part of body affected, source and secondary source, and event or exposure of injury or illness according to the Occupational Injury and Illness Classification System (OIICS) system(10) from the information on the RIIOD form. OIICS codes are assigned at the beginning of a claim, and as such represent an initial description of the injury or illness. As the medical course of the worker's injury evolves, additional coding systems, such as the ICD-9CM codes may reveal additional information about the injury or illness.

Each employer has a North American Industrial Classification System (NAICS)(2) code assigned which identifies the industry associated with the firm's commerce. NAICS groups 'economic activity' into 20 sectors (two digit code), 100 subsectors (three digit code) and 317 NAICS industry groups (four digit code)(2).

Each employer reports hours worked by their employees for payment of the WC insurance premium, and hours are reported on an account level, by a workers compensation risk-classification system, we refer to as the Washington Industrial Classification (WIC) system(11). The risk class system combines industry and occupation to group workplaces by similar risk of workers' compensation loss for insurance purposes (e.g. a painter and an electrician within the same construction company may have the same NAICS code but will be assigned different risk classes).

Data Ascertainment

We identified all SF WC claims with dates of injury or illness from January 1, 2002 to December 31, 2010. Claims were extracted on December 19, 2012. Data extracted for each claim included claim identification number, claim status (medical only; compensable), OIICS codes for nature, part of body, source, and event or exposure of injury or illness, costs associated with the claim and time loss day information. Hours by NAICS industry group were obtained by WC account aggregated over the nine year study period.

A claim is considered a ‘compensable’ claim if it is categorized by the WC system as a ‘compensable’, ‘kept on salary’, ‘total permanent disability’, ‘fatal’ or ‘loss of earning power’ claim. A claim qualifies as a ‘compensable’ claim if after a 3 day waiting period, the worker qualifies for wage replacement; some cases may have long periods of time loss payments. A claim may change status (i.e., change from non-compensable to compensable) over time. Analysis was restricted to compensable claims. Time loss days are actual days paid without estimation of future days lost.

Injury Type

Claims are classified into 15 injury types. Using OIICS codes, injuries were described by event or exposure code (alone or in combination with OIICS nature or body part affected codes and/or ICD-9 codes) into seven aggregated injury types. For example, “Struck By/Against” includes all OIICS Event or Exposure codes in 01* ‘Struck against object or equipment’ and 02* ‘Struck by object or equipment’. “Work-Related Musculoskeletal Disorders of the neck, back, and upper extremity” (“WMSDs”) were classified by identifying claims where the nature was sprain, strain, or overexertion, along with a combination of nature of injury, body part, diagnosis code, or procedure code that indicates the claim is the result of cumulative (repetitive) injury. Claims where the nature is sprain, strain, or overexertion that cannot be identified as being the result of cumulative/repetitive injury, or are clearly identifiable as having an acute onset (e.g. fracture, hernia), are aggregated as “Overexertion”.

When referring to these aggregated injury types in this report, the term “injury type” is used.

Other injury types were excluded from analyses because they each comprised less than 2% of compensable claims (“Exposure to Loud Noises”; “Extreme Temperatures”; “Bodily Reaction”; “Abraded”; “Electrical”; “Explosion”; and “Violence”). Claims originally assigned an injury type of “Other” (7.4% of compensable claims) tend to be poorly defined as ‘unclassified/insufficient data’, or ‘accident type NEC’, and as such they were also excluded from analysis.

Claims were analyzed by seven common injury types that were identified as being responsible for the majority (87.8%) of SF compensable claims. The identified injury types were: “WMSD”, “Struck By/Against”, “Fall on Same Level”, “Fall from Elevation”, “Overexertion”, “Caught In/Under/Between”, and “Motor Vehicle”.

Data Analysis

Descriptive analyses of the workers’ compensation claims were conducted to identify high cost, common, occupational injuries for prevention. Claims were aggregated by injury type.

A full time equivalent employee (FTE) was defined as working 2,000 hours per year (40 hours per week for 50 weeks per year). Claim rates are expressed as claims per 10,000 FTE. Rates of time loss days (TL) per 10,000 FTE (calculated as total time loss days / 10,000 FTE) and cost per 10,000 FTE (calculated as total cost (\$) / 10,000 FTE) were included as severity measures, “Severity: TL” and “Severity: Cost”, respectively.

For high-cost, common occupational injury types, we utilized a prevention index (PI) to rank industries for prevention activities by seven different injury types and within their NORA Sectors. The PI is the average of the rank orders of the claim count and claim incidence rate or $PI = (Count Rank + Incidence Rank)/2$. In case of a tie, rate rank was used as the tiebreaker. An ‘expanded PI’ is presented alongside the regular PI in the rankings by Risk Class (Tables 25-32). This expanded PI adds TL days/10,000 FTE and cost per 10,000 FTE in addition to count rank and rate rank.

For determination of the PI, NAICS industry groups were limited to those who had reported hours in 6 or more of the nine years of the study period, with ≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE

per year during the study period, from 2002 to 2010. Over the nine year period of the study there were 262 NAICS industry groups that met these criteria, with a total of 13,994,560 FTE.

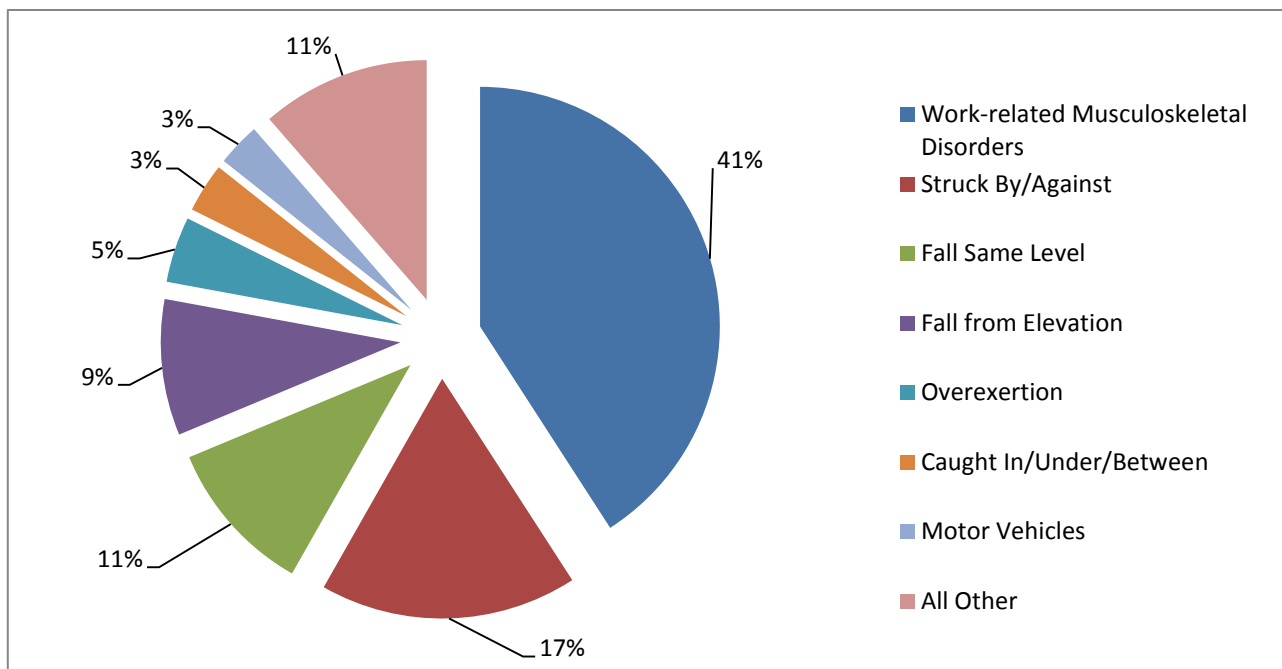
RESULTS

Between 2002 and 2010, there were 267,581 compensable claims in the WA SF, accounting for 11.03 billion dollars (total incurred, CPI adjusted). In the 262 industry groups that met the inclusion criteria, there were 267,420 compensable claims, with 53,075,809 days of time loss (TL) over the 9 year study period.

Injury Distribution

Tables 1-8 present the distribution of claims by injury type (overall, and within each NORA Sector). Seven common, high cost injury types were identified (Figure 1, Table 1): “Work- Related Musculoskeletal Disorders” (“WMSDs”), “Fall from Elevation”, “Fall on Same Level”, “Struck By/Against”, “Overexertion”, “Caught In/Under/Between”, and “Motor Vehicle”. These 7 injury types accounted for 87.8% of compensable claims, 90% of claim costs and 92% of TL days. These seven injury types were consistently the leading injury types in all sectors, with only slight variability in order (e.g. “WMSD” was the leading type in all Sectors, except the Agriculture, Forestry, and Fishing Sector (Table 2), in which “Struck By/Against” was the largest type).

Figure 1. Distribution of claims by Injury Type in the Washington State Fund, 2002-2010.



Tables 2-8 can be used to identify Sector-specific priorities for injury prevention. For example, “Fall from Elevation” is in the top 3 injury types for: Agriculture, Forestry, and Fishing; Construction; and Transportation, Warehousing, and Utilities. However, “Fall on Same Level” appears in the top 3 injury types in: Healthcare and Social Assistance; Manufacturing; Services; and Wholesale and Retail Trade.

Prevention Index Rankings

Tables 9-16 present the prevention index ranking of industry groups by injury type.

Overall, by PI for “All Injury Types”, the top 5 industry groups for research and prevention efforts in the WA SF are: Foundation, Structure, and Building Exterior Contractors (NAICS 2381); Residential Building Construction (NAICS 2361); Building Finishing Contractors (NAICS 2383); General Freight Trucking (NAICS 4841); and Building Equipment Contractors (NAICS 2382).

Four of these top 5 were in the Construction Sector and 1 in the Transportation, Warehousing & Utilities Sector. These 4 Construction Industry Groups appear highly ranked in the PIs for nearly all of the 7 identified common injury types (Building Equipment Contractors does not appear in the top 25 for “Fall on Same Level” nor in “Caught In/Under/Between”; and Residential Building Construction does not appear in the top 25 for “Motor Vehicle”). The next 5 industry groups in the top 25 for “All Injury Types” are: Residential Mental Retardation, Mental Health and Substance Abuse Facilities (NAICS 6232) (6th), Logging (NAICS 1133) (7th), Other Specialty Trade Contractors (NAICS 2389) (8th), Specialized Freight Trucking (NAICS 4842) (9th), and Services to Buildings and Dwellings (NAICS 5617) (10th). These industry groups also appear several times highly ranked in the PIs for other injury types, and Logging, Other Specialty Trade Contractors, and Services to Buildings and Dwellings appear in the top 25 of each of the seven identified common injury types.

The top 10 industry groups for research and prevention efforts for “WMSDs” (the result of cumulative/repetitive injury) were similar to those of “All Injury Types” and including Nursing Care Facilities (NAICS 6231), and Community Care Facilities for the Elderly (NAICS 6233).

The top 5 industry groups for research and prevention for “Overexertion” injuries (acute onset), were similar to those of “All Injury Types”, with the only difference being Specialized Freight Trucking (NAICS 4842) ranked 5th (instead of Building Equipment Contractors (NAICS 2382), ranked 7th). Unlike the PI for WMSDs, Nursing Care Facilities (NAICS 6231) were only ranked 16th, and Community Care Facilities for the Elderly (NAICS 6233) was not ranked in the top 25 industry groups for prevention.

Fall injuries, both “Fall on Same Level” and “Fall from Elevation”, make up a combined 20% of compensable claims in the WA SF. The PI for “Fall on Same Level” injuries includes Foundation, Structure, and Building Exterior Contractors (NAICS 2381), General Freight Trucking (4841), and Logging (NAICS 1133). It also includes 3 other Construction Sector industry groups, as well as 6 industry groups each (24%) from the Healthcare and Social Assistance and Services Sectors. The fourth and fifth rankings were in industry groups from the Healthcare and Social Assistance Sector: Residential Mental Retardation, Mental Health and Substance Abuse Facilities (NAICS 6232) and Nursing Care Facilities (NAICS 6231), respectively. Services Sector industry groups Traveler Accommodation (NAICS 7211), Justice, Public Order, and Safety Activities (9221) and Full Service Restaurants (7221) were all in the top 12. Logging (NAICS 1133) had the highest Severity: Time Loss rate, 22,656 per 10,000 FTE – 2 days time loss per FTE (the next highest, Foundation, Structure, and Building Exterior Contractors (NAICS 2381), was 13,384 days TL/10,000 FTE).

The PI for “Fall from Elevation” injuries includes many of the same industry groups as the PI for “Fall on Same Level” injuries. Eight of the top 25 PI industry groups (32%) of “Fall from Elevation” injuries occur in the Construction Sector (NAICS 23). Only two of the 10 Construction Sector industry groups (Other Heavy and Civil Engineering Construction (NAICS 2379), and Land Subdivision (NAICS 2372)) are not represented in the top 25 PI for “Fall from Elevation”. The Agriculture, Forestry, and Fishing Sector and the Services Sector each contributed 5 industry groups (20% each) to the top 25 PI. The highest Severity: Time Loss rate was for Foundation, Structure, and Building Exterior Contractors (NAICS 2381) (37,528 days TL/10,000 FTE). Building Finishing Contractors (NAICS 2383) and Residential Building Construction (NAICS 2361) also had Severity:

Time Loss rates over 30,000 days TL/10,000 FTE (followed by 4841 General Freight Trucking and 1133

Logging with Severity: Time Loss rates over 22,000 days TL/10,000 FTE).

In addition to Construction industry groups and Logging, the PI for “Struck By/Against” included Residential Mental Retardation, Mental Health and Substance Abuse Facilities (NAICS 6232) as the highest rate and overall PI rank, and Vocational Rehabilitation Services (NAICS 6243) (5th). Logging (NAICS 1133) had the highest Severity: Time Loss rate – 67,211 TL days per 10,000 FTE, or 6.7 days of time loss per FTE.

“Caught In/Under/Between” injuries happen when a worker is “squeezed, crushed, pinched or compressed between two or more objects, or between parts of an object” (10). The Manufacturing Sector had 9 of the top 25 industry groups by PI (36%). Other Wood Product Manufacturing (NAICS 3219), Logging (NAICS 1133), Architectural and Structural Metals Manufacturing (NAICS 3323) and Sawmills and Wood Preservation (NAICS 3211) made up the top 4 industries by PI. Logging (NAICS 1133) had the highest Severity: Time Loss rate – 8,580 TL days per 10,000 FTE.

As might be expected, the Transportation, Warehousing, and Utility Sector made up 32% (8 industry groups) of the top 25 industry groups by PI for “Motor Vehicle” injuries (Table 16). Four of the 5 trucking industry groups were represented in the top 25 for “Motor Vehicle” injuries: General Freight Trucking (NAICS 4841), Specialized Freight Trucking (NAICS 4842), Local Messengers and Local Delivery (NAICS 4922), and Couriers and Express Delivery Services (NAICS 4921); only Waste Collection (NAICS 5621) was not represented in the top 25 – it ranked 26th.

For an overall view of the NORA Sectors, Table 17 is a PI ranking of the 7 NORA Sectors for “All Injury Types”, and Tables 18-24 present PI rankings of industry groups within their sectors (“All Injury Types”).

Risk Class

Tables 25-32 present PI rankings by Risk Class. In addition to the traditional PI rankings, the tables for risk class present an ‘expanded PI’ ranking alongside (the expanded PI method includes TL days and cost data, to gauge some level of severity).

For “All Injury Types”, the top 10 risk classes for prevention were: 0510 Wood Frame Building Construction; 7201 State Patient or Health Care Personnel, not otherwise classified (N.O.C.); 0507 Roofing Work – Construction and Repair; 1102 Trucking N.O.C.; 0516 Carpentry, N.O.C.; 5001 Logging Operations, N.O.C.; 0101 Excavation and Grading, N.O.C.; 0540 Wallboard Installation – Discounted Rate; 0518 Non Wood Frame Building Construction; and 7117 Temporary Help – Machine Operation. These are similar to the results by NAICS – many workers in Construction work, Trucking, and Logging. Logging Operations, N.O.C. had the highest severity in TL days (836,357.2 per 10,000 FTE) and in cost per 10,000 FTE (Table 25). Logging, N.O.C. was consistently ranked in the top 25 for prevention in “All Injury Types”, and 5/7 of the injury type PIs (neither in “Motor Vehicle” injuries, where 5003 Log Hauling was ranked; nor in “Overexertion”). When looking at the expanded PI rankings, 0507 Roofing Work – Construction and Repair ranks first (driven by claim count), while 5001 Logging Operations, N.O.C. ranks 2nd (low number of claims, but ranking first in rate, TL, and cost ranks – Logging is a small industry that faces very high risks (#1 rate rank) and high injury severity as judged by TL/cost).

In the top 25 risk classes for “WMSD” prevention (Table 26), were several found in Construction industries, as well as Healthcare and Social Assistance - 72011 State Patient or Health Care Personnel, N.O.C., 0510 Wood Frame Building Construction, 6108 Nursing Homes, 1102 Trucking, N.O.C., and 0507 Roofing Work – Construction and Repair were the top five.

In the top 25 risk classes for “Struck By/Against” prevention (Table 27), construction work, logging, and manufacturing are all represented. Notably, 5001 Logging is ranked 2nd (1st by expanded PI), and has a

compensable claim rate, a Severity: Time Loss rate, and a Severity: Cost rate that far exceeds the others in the top 25.

In the top 25 risk classes for “Fall on Same Level” prevention (Table 28), were 7201 State Patient or Health Care, 1102 Trucking, N.O.C., 5001 Logging, N.O.C., risk classes in Construction work (wood frame, roofing), and Motels and Hotels. Nursing Homes and Janitorial Service were also in the top 10.

In the top 25 risk classes for “Fall from Elevation” prevention (Table 29), were many risk classes found in Construction industries such 0507 Roofing Work – Construction and Repair and 0504 Painting: Building and Structures – Exterior Work, as well as agricultural work , 4803 Orchards (ranked 4th). The 1102 Trucking, N.O.C. and 5001 Logging Operations, N.O.C. risk classes were also highly ranked for prevention.

In the top 25 risk classes for “Overexertion” prevention (Table 30), were many risk classes found in Construction, Transportation, and Manufacturing industries. The highest Severity: TL rate was found in 0302 Masonry Construction (13,392.5 / 10,000 FTE), which also had the highest Severity: Cost rate (\$3,606,536 / 10,000 FTE).

In the top 25 risk classes for “Caught In/Under/Between” prevention (Table 31), 7117 Temporary Help – Machine Operation is ranked the highest, followed by 2903 Wood Products Manufacturing, N.O.C, 1002 Sawmills and Automated Shake and Shingle Mills, 5001 Logging Operations, N.O.C., and 5208 Iron Works – Shop. In addition to very high compensable claim rate per 10,000 FTE, 5001 Logging, N.O.C and 7117 Temporary Help – Machine Operation both have extremely high Severity: Time Loss and Severity: Cost rates.

The top 25 risk classes for “Motor Vehicle” injury prevention (Table 32) is dominated by transportation work, as would be expected. Risk classes 1102 Trucking, N.O.C, 1101 Parcel and Package Delivery Service, 5003 Log Hauling, 1404 Cabulance and Paratransit, and 1407 Bus Companies – Private, make up the top five. Non-transport risk classes are also represented, such as Law Enforcement Officers (6905 County & City, 7103 State Government) and 6602 Janitorial Services.

DISCUSSION

Despite being a relatively small industry group (35,322 FTE), 1133 Logging has the highest compensable claim rate/10,000 FTE (748.0) for “All Injury Types” (Rate rank: 1st; count rank: 26th; overall PI rank: 7th; Table 9) and appears in the Top 25 PI in each of the top seven common, high-cost injuries analyzed (and ranks in the Top 5 in “Struck By/Against”, “Caught In/Under/Between”, and “Motor Vehicle”). A severity measure of TL days/10,000 FTE was included (demonstrating burden). Of industries ranked by PI to be in the top 25 for “All Injury Types” – 1133 Logging had the highest - 204,306 days TL per 10,000 FTE – and Logging also had the highest days TL/10,000 FTE in “Falls on Same Level”, “Struck By/Against”, and “Caught In/Under/Between” injuries. The risk class 5001 Logging Operations, N.O.C. is ranked in the top 25 for “All Injury Types” and in the top 10 of 4 out of 7 injury types (not in the PI for “WMSD”s, “Overexertion”, or “Motor Vehicle”); in addition to very high compensable claim rates per 10,000 FTE, when taking into account some measure of the severity of the injuries (using the expanded PI, or by looking at the Severity: Time Loss and Severity: Cost rates), one can see that risk class 5001 Logging consistently has rates several times greater than other risk classes in the PIs. Specifically, in “Struck By/Against” (Table 11, Table 27) Logging workers face the highest risk for these injuries. Looking at the Severity: Time Loss rates, Logging workers have 6.7 days TL per FTE (Table 11) to more than 35 days TL per FTE (Table 27) for “Struck By/Against” injuries, several times higher than that of other industry groups/risk classes ranked for these injuries (for example, in Table 27, the Logging Operations Severity: Time Loss rate of 351,876 per 10,000 FTE is 5x higher than the second highest, 0517 Factory Built Home Set-Up By Contractor/Manufacturer, 66,746 / 10,000 FTE).

There are some limitations to using a severity measure of TL/10,000 FTE and Costs/10,000 FTE. First, they reflect cumulative data and do not allow meaningful comparison across injury type. However, these severity measurements do allow for an assessment of injury type burden to employers and industry groups, and to make comparisons of injury burden across industries (within the same injury type). Second, the severity measures for time loss and costs may be significantly influenced by a comparatively greater prevalence of high cost and

lengthy time loss claims across industries or risk classes. The relationship between these two severity measures and median time loss and costs indicate the degree to which the severity measures are influenced by these claims at the high end of the cost and time loss distribution. It appears likely that the distribution of high cost and lengthy time loss claims are greater in Logging.

Certain trucking industry groups (4841 General Freight Trucking; 4842 Specialized Freight Trucking; 4921 Couriers; 4922 Local Messengers and Delivery; 5621 Waste Collection) were also represented in several of the injury type PIs. In the PI for “Motor Vehicle” injuries, General Freight Trucking ranks 1st and Specialized Trucking 2nd; Local Messengers and Delivery 12th, and Couriers 21st. However, these industry groups are not limited to “Motor Vehicle” injuries, as General Freight Trucking appears in the Top 25 of “All Injury Types”, as well as the Top 25 for all 7 identified injury types. Specialized Freight Trucking is highly ranked in “All Injury Type” as well as 6 out of the 7 injury types (all but “Caught In/Under/Between”); and Waste Collection is ranked in the Top 25 overall (23rd) as well as in 4 injury types (“WMSD”, “Fall Same Level”, “Overexertion” and “Struck By/Against”).

Other industry groups were also represented in most or all of the top 25 PIs: NAICS 5617 Services to Buildings and Dwellings (Services Sector) also appears in the Top 25 of “All Injury Types” as well as in the Top 25 for all of the top seven injury types; and NAICS 6232 Residential Mental Retardation, Mental Health and Substance Abuse Facilities (Healthcare & Social Assistance Sector) also ranked in the Top 25 overall as well as the Top 25 in “WMSD”, “Fall on Same Level”, and “Struck By/Against”.

There were not enough compensable claims for “Violence” injuries during the study period to analyze them by industry group (<1% of compensable claims), but it may be worth noting that 60% of these claims occur in the Services Sector (data not shown). In addition to their relative rarity, prevention measures for “Violence” may differ substantially from other occupational health and safety prevention measures.

Several of the high risk industry groups identified (Construction Sector, Logging, Trucking industry groups) are the same ones identified in our previous study that examined WA WC claims data from 1998-2002 by PI (7), showing that there is still considerable need and opportunity for prevention efforts in these industries.

Another limitation to this report is that the injury and illness rates reported in this study are dependent on the completeness of reporting of cases and employee work hours to the workers' compensation system. There are potential barriers to the filing of a workers' compensation claim (e.g. fear of retribution, failure to recognize occupational injury/illness by the physician, worker, or employer, administrative barriers, availability of other medical insurance providers). The extent of underreporting of injuries and illness to the WA WC system is unknown(12). WC premiums are dependent on employer reporting of work hours, and there may also be underreporting (or overreporting) of work hours (because insurance premiums are dependent on the claims' experience in a particular risk class, there may be under or over reporting in high/low premium risk classes), which may affect the accuracy of the comparisons between risk classes. Additionally, data coding in large administrative databases such as the WA WC system is not always complete or accurate and there is a chance for miscoding (for example, OIICS coding takes place at the initial assessment of the claim, and the injury or illness may be poorly defined on the initial claim form, and thus the coding may not reflect the true nature of the injury or illness associated with the claim). The extent to which this introduces error in our estimates is uncertain, however, it is likely to be small as misclassification and poor compliance with necessary administrative data is likely random.

Resources for prevention are scarce, and identifying which industry groups and risk classes are at highest risk and could most benefit from prevention activities for common, high, cost injuries is an important step to characterize the nature of occupational injuries in WA, and inform future action.

In conclusion, industry groups in Washington State were ranked by prevention index and seven common high-cost injuries were identified. These injuries comprise the majority of compensable claims, claim costs, and time loss days. Using the injury type data and the PI rankings together provides data to guide occupational injury

prevention efforts to the industry groups that may benefit the most and to assist employers in these industries identify problem areas. Ranking industries by claim count and rank can identify high risk/cost situations and better focus research and prevention efforts on the specific events faced by workers in individual industry groups and by the National Occupational Research Agenda Sectors.

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Table 1. Distribution of claims by Injury Type in the Washington State Fund, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
Total All Injury Types	267,420	100.0%	191.1	\$9,532	43	37,926
Work-related Musculoskeletal Disorders**	108,225	40.5%	77.3	\$12,498	56	18,406
Struck By/Against (010 - 029)	45,921	17.2%	32.8	\$5,648	25	4,672
Fall Same Level (130-139)	27,930	10.4%	20.0	\$10,819	49	4,225
Fall from Elevation (100 - 129)	24,311	9.1%	17.4	\$14,179	68	4,329
Other (9999)	19,805	7.4%	14.2	\$7,957	38	2,401
Overexertion‡	11,739	4.4%	8.4	\$7,100	33	1,090
Caught In/Under/Between (030- 049)	8,736	3.3%	6.2	\$8,027	30	700
Motor Vehicles (400 - 490)	7,842	2.9%	5.6	\$14,265	56	1,380
Exposure to Loud Noises (350-352)	4,287	1.6%	3.1	\$10,605	44	11
Extreme Temperatures (320-324)	2,323	0.9%	1.7	\$1,647	9	62
Bodily Reaction (210-219)	1,863	0.7%	1.3	\$9,799	43	288
Abraded (050 – 069, 230)	1,324	0.5%	0.9	\$1,475	6	43

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ‡Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

All NORA Sectors. State Fund (SF) compensable claims only. Total Full-Time Equivalents (FTEs) - 13,994,560. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE).

There were 262 Industry Groups that met the inclusion criteria. Injury types excluded from the table were: Electrical, Explosion, and Violence (<0.5% of claims).

Table 2. Distribution of claims by Injury Type in the NORA Agriculture, Forestry & Fishing Sector in WA SF, 2002 - 2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	12,364	-	289.6	\$9,785	53	58,932
Struck By/Against (010 - 029)	2,827	22.9%	66.2	\$6,569	33	11,917
Work-related Musculoskeletal Disorders**	2,666	21.6%	62.4	\$14,109	70	15,509
Fall from Elevation (100 - 129)	2,596	21.0%	60.8	\$11,666	83	13,550
Fall Same Level (130-139)	1,264	10.2%	29.6	\$11,745	63	6,671
Other (9999)	868	7.0%	20.3	\$8,141	45	3,604
Caught In/Under/Between (030- 049)	778	6.3%	18.2	\$11,355	42	2,857
Overexertion‡	418	3.4%	9.8	\$6,920	38	939
Motor Vehicles (400 - 490)	396	3.2%	9.3	\$26,056	110	3,079
Exposure to Loud Noises (350-352)	203	1.6%	4.8	\$12,177	53	2
Abraded (050 - 069, 230)	82	0.7%	1.9	\$1,316	7	44
Bodily Reaction (210-219)	69	0.6%	1.6	\$8,335	42	450
Extreme Temperatures (320-324)	56	0.5%	1.3	\$1,857	10	49

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ‡Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalents (FTEs) - 13,994,560; Agriculture, Forestry & Fishing Sector is NAICS 11 - 426,917 FTEs - 3.1% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Electrical, Explosion, and Violence (<0.5% of claims).

Table 3. Distribution of claims by Injury Type in the NORA Construction Sector in WA SF, 2002 - 2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	53,781	-	477.5	\$14,828	69	116,759
Work-related Musculoskeletal Disorders**	19,852	36.9%	176.2	\$21,764	105	55,488
Struck By/Against (010 - 029)	9,962	18.5%	88.4	\$7,102	32	13,826
Fall from Elevation (100 - 129)	7,632	14.2%	67.8	\$22,695	106	20,867
Other (9999)	3,807	7.1%	33.8	\$12,953	65	7,625
Fall Same Level (130-139)	3,611	6.7%	32.1	\$19,155	89	8,577
Overexertion‡	2,433	4.5%	21.6	\$8,530	42	3,247
Exposure to Loud Noises (350-352)	2,148	4.0%	19.1	\$145,348	956	73
Caught In/Under/Between (030- 049)	1,562	2.9%	13.9	\$11,309	45	1,633
Motor Vehicles (400 - 490)	1,108	2.1%	9.8	\$22,105	99	3,088
Abraded (050 - 069, 230)	382	0.7%	3.4	\$1,668	7	185
Bodily Reaction (210-219)	354	0.7%	3.1	\$14,104	59	829
Extreme Temperatures (320-324)	245	0.5%	2.2	\$3,608	17	118

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ‡Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalent (FTEs) - 13,994,560; Construction Sector is NAICS 23 -1,126,376 FTEs - 8.0% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Electrical, Explosion, and Violence (<0.5% of claims).

Table 4. Distribution of claims by Injury Type in the NORA Manufacturing Sector in WA SF, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	25,259	-	239.1	\$9,786	36	42,640
Work-related Musculoskeletal Disorders**	10,197	40.4%	96.5	\$14,264	56	22,956
Struck By/Against (010 - 029)	5,023	19.9%	47.5	\$5,942	21	5,293
Caught In/Under/Between (030- 049)	1,990	7.9%	18.8	\$9,425	26	1,920
Fall Same Level (130-139)	1,805	7.1%	17.1	\$12,412	48	3,730
Other (9999)	1,664	6.6%	15.7	\$8,353	33	2,693
Overexertion [±]	1,381	5.5%	13.1	\$6,460	24	1,248
Fall from Elevation (100 - 129)	1,270	5.0%	12.0	\$16,904	57	2,813
Exposure to Loud Noises (350-352)	459	1.8%	4.3	\$268,936	1,748	33
Motor Vehicles (400 - 490)	324	1.3%	3.1	\$11,204	45	697
Extreme Temperatures (320-324)	298	1.2%	2.8	\$3,028	17	128
Abraded (050 - 069, 230)	225	0.9%	2.1	\$1,279	4	62
Bodily Reaction (210-219)	168	0.7%	1.6	\$8,946	43	369

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ±Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalents (FTEs) - 13,994,560; Manufacturing Sector is NAICS 31-33 - 1,056,569 FTEs - 7.5% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Electrical, Explosion, and Violence (<0.5% of claims).

Table 5. Distribution of claims by Injury Type in the NORA Wholesale & Retail Trade Sector in WA SF, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	46,045	-	175.4	\$9,001	39	32,762
Work-related Musculoskeletal Disorders**	20,008	43.5%	76.2	\$11,455	49	17,089
Struck By/Against (010 - 029)	7,352	16.0%	28.0	\$5,266	21	3,714
Fall Same Level (130-139)	4,544	9.9%	17.3	\$11,794	50	3,664
Fall from Elevation (100 - 129)	3,559	7.7%	13.6	\$11,204	52	2,764
Other (9999)	3,346	7.3%	12.7	\$8,110	37	2,008
Overexertion‡	2,506	5.4%	9.5	\$6,735	30	1,085
Caught In/Under/Between (030- 049)	1,656	3.6%	6.3	\$7,363	28	577
Motor Vehicles (400 - 490)	1,438	3.1%	5.5	\$13,638	53	1,303
Exposure to Loud Noises (350-352)	446	1.0%	1.7	\$8,034	33	2
Bodily Reaction (210-219)	311	0.7%	1.2	\$9,925	43	251
Extreme Temperatures (320-324)	283	0.6%	1.1	\$1,978	10	59

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ‡Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalent (FTEs) - 13,994,560; Wholesale & Retail Trade Sector is NAICS 42, 44-45 - 2,625,104 FTEs - 18.8% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Abraded, Electrical, Explosion, and Violence (<0.5% of claims).

Table 6. Distribution of claims by Injury Type in the NORA Transportation, Warehousing & Utilities Sector in WA SF, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	18,588	-	351.3	\$9,586	42	65,310
Work-related Musculoskeletal Disorders**	7,419	39.9%	140.2	\$11,284	45	27,153
Struck By/Against (010 - 029)	2,500	13.4%	47.2	\$6,490	29	7,173
Fall from Elevation (100 - 129)	1,853	10.0%	35.0	\$12,737	54	8,176
Fall Same Level (130-139)	1,817	9.8%	34.3	\$10,829	50	6,877
Other (9999)	1,465	7.9%	27.7	\$7,679	34	4,176
Motor Vehicles (400 - 490)	1,454	7.8%	27.5	\$14,847	69	7,362
Overexertion‡	852	4.6%	16.1	\$7,235	33	2,108
Caught In/Under/Between (030- 049)	509	2.7%	9.6	\$7,472	32	1,382
Exposure to Loud Noises (350-352)	330	1.8%	6.2	\$99,636	402	8
Bodily Reaction (210-219)	160	0.9%	3.0	\$7,055	32	387

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ‡Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalent (FTEs) - 13,994,560; Transportation, Warehousing & Utilities Sector is NAICS 48-49, 22 - 529,193 FTEs - 3.8% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Extreme Temperatures, Abraded, Electrical, Explosion, and Violence (<0.5% of claims).

Table 7. Distribution of claims by Injury Type in the NORA Services Sector in WA SF, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	85,985	-	126.7	\$8,173	38	23,326
Work-related Musculoskeletal Disorders**	35,299	41.1%	52.0	\$11,071	50	11,405
Struck By/Against (010 - 029)	13,809	16.1%	20.3	\$4,548	21	2,580
Fall Same Level (130-139)	11,561	13.4%	17.0	\$9,346	43	3,389
Other (9999)	6,951	8.1%	10.2	\$6,630	33	1,548
Fall from Elevation (100 - 129)	6,414	7.5%	9.5	\$11,583	55	2,160
Overexertion [±]	3,269	3.8%	4.8	\$6,895	32	636
Motor Vehicles(400 - 490)	2,695	3.1%	4.0	\$10,824	41	812
Caught In/Under/Between (030- 049)	2,024	2.4%	3.0	\$5,298	26	328
Extreme Temperatures (320-324)	1,275	1.5%	1.9	\$1,336	7	55
Bodily Reaction (210-219)	665	0.8%	1.0	\$9,404	42	210
Exposure to Loud Noises (350-352)	612	0.7%	0.9	\$3,955	17	2

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ±Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalent (FTEs) - 13,994,560; Services Sector is NAICS 51-56, 61, 71-72, 81, 91 - 6,786,626 FTEs - 48.5% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Abraded, Electrical, Explosion, and Violence (<0.5% of claims).

Table 8. Distribution of claims by Injury Type in the NORA Healthcare & Social Assistance Sector in WA SF, 2002-2010.

Injury Type (OIICS* Event or Exposure Codes)	# Claims	% of Claims	Claim Rate / 10,000 FTE	Median Cost	Median days TL	Severity: TL
All Injury Types	24,762	-	174.1	\$8,043	39	34,190
Work-related Musculoskeletal Disorders**	12,564	50.7%	88.3	\$9,331	45	18,887
Struck By/Against (010 - 029)	4,326	17.5%	30.4	\$5,832	30	5,466
Fall Same Level (130-139)	3,284	13.3%	23.1	\$9,043	41	4,444
Other (9999)	1,659	6.7%	11.7	\$5,503	30	1,803
Fall from Elevation (100 - 129)	943	3.8%	6.6	\$9,954	40	1,392
Overexertion [±]	859	3.5%	6.0	\$7,629	40	1,085
Motor Vehicles (400 - 490)	396	1.6%	2.8	\$12,596	46	590
Caught In/Under/Between (030- 049)	189	0.8%	1.3	\$3,755	24	156
Bodily Reaction (210-219)	133	0.5%	0.9	\$9,748	43	158

* Occupational Injury and Illness Classification System (OIICS). ** WMSDs are defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating cumulative or repetitive injury. ±Overexertion is defined as sprain, strain, or overexertion, along with a combination of nature of injury, body part, and diagnosis codes indicating acute or unknown onset injury.

State Fund (SF) compensable claims only. Total Full-Time Equivalent (FTEs) - 13,994,560; Healthcare & Social Assistance Sector is NAICS 62 & 54194 - 1,422,208 FTEs - 10.2% of the SF workforce. FTEs are calculated as total hours/2000. Severity TL = (TL days/10,000 FTE). Injury types excluded from the table were: Extreme Temperatures, Exposure to Loud Noises, Abraded, Electrical, Explosion, and Violence (<0.5% of claims).

Table 9. Top 25 NAICS Industry Groups by Prevention Index for WA SF, "All Injury Types", 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	9,312	676.3	\$13,196	68	161,159	2	3	1
C	2361	Residential Building Construction	186,292	9,792	525.6	\$11,280	57	129,804	10	2	2
C	2383	Building Finishing Contractors	160,942	8,281	514.5	\$13,697	71	136,950	11	4	3
U	4841	General Freight Trucking	89,627	4,985	556.2	\$10,779	55	137,877	8	11	4
C	2382	Building Equipment Contractors	276,061	12,495	452.6	\$17,782	77	105,487	18	1	4
H	6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	48,764	3,251	666.7	\$6,354	33	115,168	3	19	6
A	1133	Logging	35,322	2,642	748.0	\$14,347	66	204,306	1	26	7
C	2389	Other Specialty Trade Contractors	123,197	5,456	442.9	\$13,214	62	111,986	21	9	8
U	4842	Specialized Freight Trucking	46,765	2,685	574.2	\$9,130	49	116,432	7	25	9
S	5617	Services to Buildings and Dwellings	192,258	7,860	408.8	\$7,489	43	82,849	30	5	10
H	6231	Nursing Care Facilities	122,719	4,437	361.6	\$6,649	33	63,675	41	12	11
S	5621	Waste Collection	21,310	1,316	617.6	\$7,665	34	90,504	5	53	12
M	3219	Other Wood Product Manufacturing	48,441	2,032	419.5	\$8,869	30	74,729	26	32	12
C	2373	Highway, Street, and Bridge Construction	45,004	1,880	417.7	\$30,101	108	109,069	27	35	14
H	6243	Vocational Rehabilitation Services	55,612	2,179	391.8	\$5,206	28	60,168	35	30	15
C	2371	Utility System Construction	57,242	2,147	375.1	\$19,443	78	96,020	38	31	16
C	2362	Nonresidential Building Construction	108,886	3,580	328.8	\$25,025	94	72,752	54	16	17
S	9221	Justice, Public Order, and Safety Activities	137,032	4,149	302.8	\$9,360	30	37,377	65	13	18
M	3211	Sawmills and Wood Preservation	26,888	1,131	420.6	\$9,902	34	83,822	24	58	19
S	8111	Automotive Repair and Maintenance	132,964	3,730	280.5	\$10,053	45	65,058	73	15	20
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	5,187	266.1	\$9,441	43	48,304	81	10	21
M	3323	Architectural and Structural Metals Manufacturing	45,395	1,572	346.3	\$10,914	41	57,173	49	44	22
H	6233	Community Care Facilities for the Elderly	96,742	2,740	283.2	\$7,686	39	56,851	71	24	23
U	2213	Water, Sewage and Other Systems	109,958	3,060	278.3	\$9,755	26	30,818	74	22	24
S	5613	Employment Services	245,383	6,118	249.3	\$5,687	42	44,743	92	8	25
M	3365	Railroad Rolling Stock Manufacturing	1,538	97	630.5	\$12,618	45	205,034		232	107

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S = Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 262 NAICS Industry Groups ranked in the PI for All Injury Types. Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 10. Top 25 NAICS Industry Groups by Prevention Index for "Work-related Musculoskeletal Disorder" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	3,093	224.6	\$20,159	104	67,900	6	3	1
C	2382	Building Equipment Contractors	276,061	5,449	197.4	\$24,382	116	66,018	8	1	1
H	6231	Nursing Care Facilities	122,719	2,749	224.0	\$6,771	34	41,390	7	6	3
C	2383	Building Finishing Contractors	160,942	3,010	187.0	\$20,681	102	61,894	11	4	4
C	2361	Residential Building Construction	186,292	3,259	174.9	\$16,380	82	52,147	15	2	5
U	4841	General Freight Trucking	89,627	1,736	193.7	\$12,762	64	51,096	10	12	6
U	4842	Specialized Freight Trucking	46,765	1,069	228.6	\$10,844	55	48,269	5	25	7
S	5617	Services to Buildings and Dwellings	192,258	2,993	155.7	\$9,324	53	37,180	26	5	8
H	6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	48,764	954	195.6	\$7,776	39	34,252	9	27	9
H	6233	Community Care Facilities for the Elderly	96,742	1,582	163.5	\$8,459	45	35,777	21	15	9
C	2389	Other Specialty Trade Contractors	123,197	1,937	157.2	\$18,085	97	48,742	25	11	9
S	5621	Waste Collection	21,310	584	274.1	\$8,665	36	44,037	1	48	12
H	6243	Vocational Rehabilitation Services	55,612	852	153.2	\$5,927	37	27,587	29	28	13
T	4451	Grocery Stores	135,103	1,712	126.7	\$8,405	41	22,866	49	14	14
S	9221	Justice, Public Order, and Safety Activities	137,032	1,730	126.2	\$11,122	33	15,364	51	13	15
A	1133	Logging	35,322	587	166.2	\$20,652	110	53,986	20	47	16
C	2362	Nonresidential Building Construction	108,886	1,381	126.8	\$31,997	127	36,529	48	19	16
C	2371	Utility System Construction	57,242	778	135.9	\$22,614	97	41,291	43	30	18
U	2213	Water, Sewage and Other Systems	109,958	1,358	123.5	\$12,085	30	15,423	53	21	19
U	4811	Scheduled Air Transportation	14,958	389	260.1	\$7,462	38	29,391	3	72	20
C	2373	Highway, Street, and Bridge Construction	45,004	661	146.9	\$32,855	133	47,897	34	41	20
M	3219	Other Wood Product Manufacturing	48,441	698	144.1	\$14,209	56	37,809	37	39	22
H	6239	Other Residential Care Facilities	52,453	738	140.7	\$6,391	37	31,487	40	36	22
S	8111	Automotive Repair and Maintenance	132,964	1,564	117.6	\$15,262	71	33,924	62	16	24
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	2,106	108.0	\$10,543	46	21,143	71	10	25
M	3115	Dairy Product Manufacturing	2,226	59	265.1	\$9,733	57	51,103	2	209	95
U	4852	Interurban and Rural Bus Transportation	13,125	318	242.3	\$9,512	48	34,119	4	87	28

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S= Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 224 NAICS Industry Groups ranked in the PI for 'Musculoskeletal Disorder' (MSD). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 11. Top 25 NAICS Industry Groups by Prevention Index for "Struck By/Against" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
H	6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	48,764	1,534	314.6	\$5,820	32	57,473	1	3	1
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	2,042	148.3	\$6,550	33	22,274	6	2	2
C	2361	Residential Building Construction	186,292	2,283	122.5	\$6,164	26	17,579	8	1	3
A	1133	Logging	35,322	783	221.7	\$10,842	53	67,211	2	12	4
H	6243	Vocational Rehabilitation Services	55,612	686	123.4	\$5,339	31	19,013	7	14	5
C	2383	Building Finishing Contractors	160,942	1,457	90.5	\$6,178	28	13,346	16	5	5
C	2389	Other Specialty Trade Contractors	123,197	1,132	91.9	\$7,754	38	16,369	15	9	7
M	3219	Other Wood Product Manufacturing	48,441	566	116.8	\$5,831	19	13,212	10	20	8
S	5617	Services to Buildings and Dwellings	192,258	1,298	67.5	\$4,850	28	8,904	32	8	9
A	1121	Cattle Ranching and Farming	30,181	361	119.6	\$7,468	35	20,360	9	32	10
U	4841	General Freight Trucking	89,627	671	74.9	\$7,688	38	15,516	28	16	11
M	3323	Architectural and Structural Metals Manufacturing	45,395	383	84.4	\$7,646	28	10,200	20	28	12
C	2362	Nonresidential Building Construction	108,886	687	63.1	\$14,398	60	9,248	37	13	13
S	5613	Employment Services	245,383	1,378	56.2	\$3,607	28	7,048	45	7	14
C	2382	Building Equipment Contractors	276,061	1,486	53.8	\$6,341	29	7,600	48	4	14
M	3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	40,933	338	82.6	\$5,170	21	6,596	21	35	16
U	4842	Specialized Freight Trucking	46,765	357	76.3	\$6,098	28	11,819	25	33	17
C	2373	Highway, Street, and Bridge Construction	45,004	341	75.8	\$20,661	66	16,821	26	34	18
M	3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	20,562	210	102.1	\$4,704	14	12,691	11	50	19
C	2371	Utility System Construction	57,242	364	63.6	\$15,641	58	16,204	36	31	20
T	4233	Lumber and Other Construction Materials Merchant Wholesalers	60,059	370	61.6	\$5,628	20	5,829	38	30	21
S	8111	Automotive Repair and Maintenance	132,964	661	49.7	\$6,083	23	8,095	51	17	21
S	5621	Waste Collection	21,310	190	89.2	\$5,702	30	11,896	18	55	23
S	9221	Justice, Public Order, and Safety Activities	137,032	659	48.1	\$7,309	26	6,105	55	18	23
M	3211	Sawmills and Wood Preservation	26,888	207	77.0	\$6,471	30	12,680	24	52	25

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S= Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 160 NAICS Industry Groups ranked in the PI for 'Struck By/Against'.

Table 12. Top 25 NAICS Industry Groups by Prevention Index for "Fall on Same Level" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	735	53.4	\$17,616	89	13,384	5	4	1
S	5617	Services to Buildings and Dwellings	192,258	902	46.9	\$10,173	52	10,353	10	3	2
U	4841	General Freight Trucking	89,627	511	57.0	\$12,798	65	13,328	4	12	3
H	6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	48,764	332	68.1	\$7,242	39	11,767	2	20	4
H	6231	Nursing Care Facilities	122,719	545	44.4	\$9,137	41	7,684	14	10	5
A	1133	Logging	35,322	312	88.3	\$13,751	64	22,656	1	24	6
S	7211	Traveler Accommodation	143,566	566	39.4	\$7,750	46	9,438	17	8	6
C	2361	Residential Building Construction	186,292	686	36.8	\$14,912	73	10,847	20	5	6
S	9221	Justice, Public Order, and Safety Activities	137,032	536	39.1	\$10,560	35	6,063	18	11	9
C	2383	Building Finishing Contractors	160,942	569	35.4	\$18,399	95	10,458	24	7	10
S	7221	Full-Service Restaurants	470,343	1,426	30.3	\$6,097	37	6,024	35	1	11
H	6243	Vocational Rehabilitation Services	55,612	264	47.5	\$4,426	23	5,866	9	29	12
H	6233	Community Care Facilities for the Elderly	96,742	351	36.3	\$8,394	44	6,866	23	18	13
T	4471	Gasoline Stations	90,133	330	36.6	\$9,627	60	8,501	21	21	14
C	2389	Other Specialty Trade Contractors	123,197	410	33.3	\$16,825	77	9,310	30	15	15
T	4451	Grocery Stores	135,103	443	32.8	\$9,917	49	6,701	31	14	15
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	556	28.5	\$11,926	59	5,939	38	9	17
U	4842	Specialized Freight Trucking	46,765	211	45.1	\$10,715	62	11,684	13	35	18
S	7139	Other Amusement and Recreation Industries	119,277	343	28.8	\$8,022	43	4,666	36	19	19
H	6239	Other Residential Care Facilities	52,453	191	36.4	\$10,197	51	8,688	22	43	20
U	2213	Water, Sewage and Other Systems	109,958	310	28.2	\$10,082	28	2,864	40	25	20
S	7223	Special Food Services	56,334	193	34.3	\$7,369	45	8,802	27	42	22
S	5621	Waste Collection	21,310	104	48.8	\$11,152	37	7,044	8	63	23
A	1121	Cattle Ranching and Farming	30,181	121	40.1	\$10,406	43	8,031	16	56	24
H	6244	Child Day Care Services	102,059	277	27.1	\$5,565	26	4,875	44	28	24
U	4884	Support Activities for Road Transportation	12,318	82	66.6	\$8,726	43	11,242	3	79	32
S	7222	Limited-Service Eating Places	638,644	1,233	19.3	\$5,711	32	3,226	80	2	32

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S= Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 131 NAICS Industry Groups ranked in the PI for 'Fall on Same Level'. Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 13. Top 25 NAICS Industry Groups by Prevention Index for "Fall From Elevation" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	1,628	118.2	\$27,754	125	37,528	1	2	1
C	2383	Building Finishing Contractors	160,942	1,627	101.1	\$21,994	119	32,433	2	3	2
C	2361	Residential Building Construction	186,292	1,683	90.3	\$20,093	104	30,265	5	1	3
A	1113	Fruit and Tree Nut Farming	166,286	1,509	90.7	\$10,243	87	18,667	4	4	4
U	4841	General Freight Trucking	89,627	687	76.7	\$14,698	66	23,011	7	7	5
C	2389	Other Specialty Trade Contractors	123,197	624	50.7	\$21,441	97	15,458	10	8	6
S	5617	Services to Buildings and Dwellings	192,258	857	44.6	\$13,048	73	11,960	12	6	6
U	4842	Specialized Freight Trucking	46,765	320	68.4	\$12,311	54	18,266	8	13	8
A	1133	Logging	35,322	285	80.7	\$13,361	68	22,107	6	16	9
C	2382	Building Equipment Contractors	276,061	1,128	40.9	\$17,323	75	10,488	17	5	9
A	1151	Support Activities for Crop Production	68,594	296	43.2	\$11,515	81	10,046	13	15	11
C	2362	Nonresidential Building Construction	108,886	430	39.5	\$33,587	103	10,752	19	10	12
C	2371	Utility System Construction	57,242	238	41.6	\$20,453	81	10,375	15	19	13
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	519	26.6	\$13,928	72	5,212	30	9	14
C	2373	Highway, Street, and Bridge Construction	45,004	185	41.1	\$57,144	220	12,474	16	26	15
T	4233	Lumber and Other Construction Materials Merchant Wholesalers	60,059	176	29.3	\$16,544	54	5,392	25	28	16
A	1119	Other Crop Farming	28,587	117	40.9	\$17,410	91	9,369	17	39	17
S	5311	Lessors of Real Estate	78,228	185	23.6	\$19,206	75	6,896	35	26	18
T	4441	Building Material and Supplies Dealers	99,576	224	22.5	\$12,003	62	4,227	40	21	18
T	4442	Lawn and Garden Equipment and Supplies Stores	40,403	116	28.7	\$9,209	51	5,051	26	40	20
S	8111	Automotive Repair and Maintenance	132,964	256	19.3	\$13,118	63	4,890	49	18	21
S	5613	Employment Services	245,383	418	17.0	\$9,108	61	3,985	57	11	22
U	2213	Water, Sewage and Other Systems	109,958	213	19.4	\$11,125	29	2,475	46	23	23
A	1111	Oilseed and Grain Farming	17,793	80	45.0	\$13,058	74	11,167	11	61	24
S	5313	Activities Related to Real Estate	110,988	200	18.0	\$19,146	73	6,399	50	24	25
S	7112	Spectator Sports	7,065	68	96.3	\$14,361	88	24,348	3	72	26

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S= Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 105 NAICS Industry Groups ranked in the PI for 'Fall From Elevation'. Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 14. Top 25 NAICS Industry Groups by Prevention Index for "Overexertion" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	425	30.9	\$9,134	46	5,042	2	3	1
C	2361	Residential Building Construction	186,292	474	25.4	\$7,922	42	4,050	5	1	2
C	2383	Building Finishing Contractors	160,942	379	23.5	\$8,453	42	3,559	9	4	3
U	4841	General Freight Trucking	89,627	218	24.3	\$7,993	43	3,348	7	10	4
U	4842	Specialized Freight Trucking	46,765	152	32.5	\$6,521	33	3,029	1	19	5
C	2389	Other Specialty Trade Contractors	123,197	270	21.9	\$9,350	47	3,507	13	7	5
C	2382	Building Equipment Contractors	276,061	472	17.1	\$8,428	34	2,232	20	2	7
S	5617	Services to Buildings and Dwellings	192,258	323	16.8	\$6,582	41	2,425	22	5	8
C	2362	Nonresidential Building Construction	108,886	190	17.4	\$7,983	32	1,610	19	14	9
M	3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	40,933	97	23.7	\$6,184	19	2,548	8	29	10
T	4441	Building Material and Supplies Dealers	99,576	167	16.8	\$6,617	32	2,141	22	15	10
S	8111	Automotive Repair and Maintenance	132,964	213	16.0	\$7,393	32	2,383	26	11	10
M	3323	Architectural and Structural Metals Manufacturing	45,395	100	22.0	\$7,223	33	2,177	12	28	13
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	260	13.3	\$6,914	32	1,634	36	8	14
S	5613	Employment Services	245,383	295	12.0	\$5,867	35	1,388	41	6	15
H	6231	Nursing Care Facilities	122,719	167	13.6	\$6,361	34	1,816	33	15	16
T	4248	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	31,599	74	23.4	\$6,307	29	2,258	10	40	17
M	3219	Other Wood Product Manufacturing	48,441	90	18.6	\$6,294	22	1,641	18	32	17
C	2371	Utility System Construction	57,242	97	16.9	\$8,590	42	3,484	21	29	17
A	1133	Logging	35,322	77	21.8	\$9,681	49	2,489	14	37	20
S	5621	Waste Collection	21,310	60	28.2	\$7,820	40	2,669	3	51	21
T	4413	Automotive Parts, Accessories, and Tire Stores	61,547	91	14.8	\$6,146	28	1,409	27	31	22
T	4421	Furniture Stores	38,995	73	18.7	\$5,799	26	2,869	17	42	23
U	2213	Water, Sewage and Other Systems	109,958	138	12.6	\$6,943	24	1,483	39	21	24
T	4451	Grocery Stores	135,103	156	11.5	\$6,991	30	1,266	43	17	24
M	3315	Foundries	21,074	54	25.6	\$6,321	21	2,782	4	57	27

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S= Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 72 NAICS Industry Groups ranked in the PI for 'Overexertion'.

Table 15. Top 25 NAICS Industry Groups by Prevention Index for "Caught In/Under/Between" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
M	3219	Other Wood Product Manufacturing	48,441	198	40.9	\$7,609	26	4,266	3	8	1
A	1133	Logging	35,322	150	42.5	\$10,423	46	8,580	2	12	2
M	3323	Architectural and Structural Metals Manufacturing	45,395	157	34.6	\$11,515	37	2,665	6	10	3
M	3211	Sawmills and Wood Preservation	26,888	125	46.5	\$10,081	22	6,558	1	16	4
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	296	21.5	\$10,026	43	2,279	18	2	5
C	2389	Other Specialty Trade Contractors	123,197	235	19.1	\$10,946	42	2,405	22	5	6
S	5613	Employment Services	245,383	369	15.0	\$4,483	33	1,803	26	1	6
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	290	14.9	\$8,198	39	2,208	27	3	8
C	2361	Residential Building Construction	186,292	275	14.8	\$11,342	50	2,039	28	4	9
M	3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	20,562	77	37.4	\$15,105	40	6,728	5	30	10
A	1151	Support Activities for Crop Production	68,594	128	18.7	\$9,945	31	3,454	23	15	11
A	1121	Cattle Ranching and Farming	30,181	79	26.2	\$14,224	50	5,830	10	29	12
T	4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	17,203	65	37.8	\$10,226	40	3,113	4	36	13
M	3315	Foundries	21,074	66	31.3	\$17,937	28	2,071	7	34	14
M	3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	40,933	90	22.0	\$6,040	19	2,237	16	25	14
S	5617	Services to Buildings and Dwellings	192,258	229	11.9	\$7,010	35	1,299	35	6	14
M	3222	Converted Paper Product Manufacturing	20,623	64	31.0	\$14,284	25	2,414	8	37	17
C	2371	Utility System Construction	57,242	104	18.2	\$12,849	43	1,799	24	21	17
M	3261	Plastics Product Manufacturing	38,300	81	21.1	\$12,642	30	1,732	19	27	19
U	4841	General Freight Trucking	89,627	125	13.9	\$8,898	33	3,125	31	16	20
C	2362	Nonresidential Building Construction	108,886	139	12.8	\$27,869	66	1,106	34	13	20
C	2383	Building Finishing Contractors	160,942	189	11.7	\$10,909	45	1,679	38	9	20
A	1112	Vegetable and Melon Farming	25,409	63	24.8	\$12,032	43	2,318	12	38	23
M	3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	19,535	58	29.7	\$11,271	48	6,395	9	42	24
U	4931	Warehousing and Storage	46,696	81	17.3	\$8,024	40	1,850	25	27	25

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S = Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 56 NAICS Industry Groups ranked in the PI for 'Caught In/Under/Between'. Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 16. Top 25 NAICS Industry Groups by Prevention Index for "Motor Vehicle" Injuries, WA SF, 2002-2010.

NORA Sector	4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Rate Rank (All SF)	Count Rank (All SF)	Overall SF PI Rank
U	4841	General Freight Trucking	89,627	485	54.1	\$16,802	95	19,356	4	1	1
U	4842	Specialized Freight Trucking	46,765	195	41.7	\$12,888	65	11,040	7	4	2
S	5617	Services to Buildings and Dwellings	192,258	392	20.4	\$10,044	46	4,275	13	2	3
A	1133	Logging	35,322	116	32.8	\$36,999	137	11,045	8	12	4
C	2389	Other Specialty Trade Contractors	123,197	172	14.0	\$27,467	114	4,860	16	5	5
U	4852	Interurban and Rural Bus Transportation	13,125	97	73.9	\$9,778	39	12,326	2	21	6
C	2382	Building Equipment Contractors	276,061	281	10.2	\$16,395	65	2,767	21	3	7
U	2213	Water, Sewage and Other Systems	109,958	151	13.7	\$11,890	29	1,785	17	9	8
S	9221	Justice, Public Order, and Safety Activities	137,032	171	12.5	\$11,091	21	1,138	20	6	8
C	2373	Highway, Street, and Bridge Construction	45,004	110	24.4	\$49,632	190	8,729	12	15	10
T	4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	43,144	106	24.6	\$11,963	48	6,102	11	17	11
U	4922	Local Messengers and Local Delivery	9,428	70	74.2	\$11,048	69	14,388	1	30	12
C	2371	Utility System Construction	57,242	105	18.3	\$16,124	75	4,227	14	19	13
C	2383	Building Finishing Contractors	160,942	148	9.2	\$12,878	75	2,522	24	10	14
T	4413	Automotive Parts, Accessories, and Tire Stores	61,547	102	16.6	\$12,351	52	3,963	15	20	15
T	4411	Automobile Dealers	203,980	158	7.7	\$9,708	36	1,669	28	7	15
U	4859	Other Transit and Ground Passenger Transportation	14,452	68	47.1	\$14,440	65	9,047	6	31	17
U	4884	Support Activities for Road Transportation	12,318	65	52.8	\$21,065	87	14,913	5	33	18
S	5321	Automotive Equipment Rental and Leasing	24,882	75	30.1	\$6,500	43	3,113	9	29	18
U	4921	Couriers and Express Delivery Services	9,336	62	66.4	\$18,432	109	21,547	3	36	20
C	2381	Foundation, Structure, and Building Exterior Contractors	137,685	111	8.1	\$19,723	82	2,291	26	14	21
S	9211	Executive, Legislative, and Other General Government Support	174,326	116	6.7	\$10,445	32	1,196	30	12	22
T	4244	Grocery and Related Product Merchant Wholesalers	194,917	124	6.4	\$17,603	71	1,720	31	11	22
S	5616	Investigation and Security Services	69,344	88	12.7	\$7,736	31	2,998	19	24	24
H	6241	Individual and Family Services	92,488	88	9.5	\$12,662	51	1,868	22	24	25

NORA Sector key: A = Agriculture, Forestry & Fishing; C = Construction; M = Manufacturing; T = Wholesale & Retail Trade; U = Transportation, Warehousing & Utilities; S = Services; H = Healthcare & Social Assistance.

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE). There were 48 NAICS Industry Groups ranked in the PI for 'Motor Vehicle'.

Table 17. Prevention Index by NORA Sector for All Injury Types, WA SF, 2002-2010.

NORA Sector (# Industry Groups)	FTE	% of SF Workforce	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Sector Rate Rank	Sector Count Rank	Sector PI Rank
All (262)	13,994,560	-	267,420	191.1	\$9,532	43	37,926	-	-	-
Construction (10)	1,126,376	8.0	53,781	477.5	\$14,828	69	116,759	1	2	1
Transportation, Warehousing & Utilities (23)	529,193	3.8	18,588	351.3	\$9,586	42	65,310	2	6	2
Manufacturing (67)	1,056,569	7.5	25,259	239.1	\$9,786	36	42,640	4	4	2
Wholesale & Retail Trade (46)	2,625,104	18.8	46,045	175.4	\$9,001	39	32,762	5	3	2
Services (84)	6,786,626	48.5	85,985	126.7	\$8,173	38	23,326	7	1	2
Agriculture, Forestry & Fishing (15)	426,917	3.1	12,364	289.6	\$9,785	53	58,932	3	7	6
Healthcare & Social Assistance (17)	1,422,208	10.2	24,762	174.1	\$8,043	39	34,190	6	5	7

State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 18. Prevention Index for all Industry Groups within the NORA Agriculture, Forestry & Fishing Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
1133	Logging	35,322	2,642	748.0	\$14,347	66	204,306	1	2	1	7
1153	Support Activities for Forestry	5,306	238	448.5	\$7,539	51	107,470	2	9	2	74
1121	Cattle Ranching and Farming	30,181	983	325.7	\$9,698	42	62,496	7	4	2	37
1113	Fruit and Tree Nut Farming	166,286	3,848	231.4	\$8,360	57	41,738	12	1	4	35
1151	Support Activities for Crop Production	68,594	1,657	241.6	\$8,514	44	44,507	11	3	5	43
1152	Support Activities for Animal Production	4,125	174	421.8	\$13,200	68	107,761	3	11	5	95
1123	Poultry and Egg Production	2,812	118	419.7	\$10,511	47	59,061	4	13	7	114
1141	Fishing	4,924	171	347.3	\$4,485	38	54,743	6	12	8	118
1111	Oilseed and Grain Farming	17,793	453	254.6	\$10,636	48	47,528	10	8	8	91
1129	Other Animal Production	6,168	177	286.9	\$10,890	66	59,472	9	10	10	136
1114	Greenhouse, Nursery, and Floriculture Production	25,219	567	224.8	\$8,227	40	34,657	13	6	10	101
1119	Other Crop Farming	28,587	633	221.4	\$11,315	52	41,882	14	5	10	91
1132	Forest Nurseries and Gathering of Forest Products	1,151	47	408.5	\$9,785	49	112,858	5	15	13	159
1125	Aquaculture	3,414	108	316.4	\$5,115	27	39,557	8	14	14	149
1112	Vegetable and Melon Farming	25,409	495	194.8	\$10,182	53	39,656	15	7	14	134

There were 15 industries in the Agriculture, Forestry, & Fishing Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 19. Prevention Index for all Industry Groups within the NORA Construction Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
2381	Foundation, Structure, and Building Exterior Contractors	137,685	9,312	676.3	\$13,196	68	161,159	1	3	1	1
2361	Residential Building Construction	186,292	9,792	525.6	\$11,280	57	129,804	2	2	1	2
2382	Building Equipment Contractors	276,061	12,495	452.6	\$17,782	77	105,487	4	1	3	4
2383	Building Finishing Contractors	160,942	8,281	514.5	\$13,697	71	136,950	3	4	4	3
2389	Other Specialty Trade Contractors	123,197	5,456	442.9	\$13,214	62	111,986	5	5	5	8
2373	Highway, Street, and Bridge Construction	45,004	1,880	417.7	\$30,101	108	109,069	6	8	6	14
2371	Utility System Construction	57,242	2,147	375.1	\$19,443	78	96,020	7	7	6	16
2362	Nonresidential Building Construction	108,886	3,580	328.8	\$25,025	94	72,752	9	6	8	17
2379	Other Heavy and Civil Engineering Construction	15,018	543	361.6	\$22,695	96	77,910	8	9	9	55
2372	Land Subdivision	12,860	223	173.4	\$6,282	32	36,986	10	10	10	184

There were 10 industries in the Construction Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 20. Prevention Index for Top 25 Industry Groups within the NORA Manufacturing Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
3219	Other Wood Product Manufacturing	48,441	2,032	419.5	\$8,869	30	74,729	7	1	1	12
3211	Sawmills and Wood Preservation	26,888	1,131	420.6	\$9,902	34	83,822	6	4	2	19
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	20,562	850	413.4	\$6,739	26	65,930	8	8	3	26
3273	Cement and Concrete Product Manufacturing	23,024	868	377.0	\$15,007	53	58,311	11	6	4	29
3323	Architectural and Structural Metals Manufacturing	45,395	1,572	346.3	\$10,914	41	57,173	16	2	5	22
3315	Foundries	21,074	840	398.6	\$10,869	30	58,397	10	9	6	32
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	40,933	1,347	329.1	\$7,922	33	55,720	17	3	7	26
3116	Animal Slaughtering and Processing	20,323	755	371.5	\$9,846	39	65,866	13	11	8	38
3117	Seafood Product Preparation and Packaging	27,842	866	311.0	\$5,802	27	51,484	21	7	9	40
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	19,535	628	321.5	\$11,806	55	69,855	18	15	10	56
3366	Ship and Boat Building	19,020	594	312.3	\$9,038	29	56,783	20	17	11	64
3261	Plastics Product Manufacturing	38,300	930	242.8	\$9,710	39	42,958	33	5	12	58
3324	Boiler, Tank, and Shipping Container Manufacturing	20,623	605	293.4	\$10,928	42	69,751	9	32	13	85
3222	Converted Paper Product Manufacturing	5,504	223	405.1	\$11,114	37	45,388	25	16	13	66
3372	Office Furniture (including Fixtures) Manufacturing	10,231	323	315.7	\$15,413	53	71,780	19	24	15	87
3115	Dairy Product Manufacturing	2,226	136	611.0	\$8,427	39	136,771	2	43	16	88
3362	Motor Vehicle Body and Trailer Manufacturing	4,191	179	427.1	\$10,035	36	94,485	5	41	17	90
3311	Iron and Steel Mills and Ferroalloy Manufacturing	2,631	133	505.6	\$9,308	39	93,673	3	44	18	100
3329	Other Fabricated Metal Product Manufacturing	22,801	573	251.3	\$9,743	42	46,803	30	18	19	83
3279	Other Nonmetallic Mineral Product Manufacturing	8,517	259	304.1	\$7,215	34	49,609	24	25	20	96
3365	Railroad Rolling Stock Manufacturing	1,538	97	630.5	\$12,618	45	205,034	1	49	21	107
3113	Sugar and Confectionery Product Manufacturing	5,461	195	357.1	\$8,899	38	73,679	14	37	22	104
3121	Beverage Manufacturing	38,996	819	210.0	\$8,391	38	33,013	41	10	22	80
3118	Bakeries and Tortilla Manufacturing	20,163	477	236.6	\$7,514	34	48,708	35	19	24	102
3312	Steel Product Manufacturing from Purchased Steel	1,998	89	445.4	\$15,724	57	103,368	4	51	25	125

There were 67 industries in the Manufacturing Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 21. Prevention Index for Top 25 Industry Groups within the NORA Wholesale & Retail Trade Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
4244	Grocery and Related Product Merchant Wholesalers	194,917	5,187	266.1	\$9,441	43	48,304	7	1	1	21
4233	Lumber and Other Construction Materials Merchant Wholesalers	60,059	1,637	272.6	\$9,464	34	41,042	4	9	2	34
4441	Building Material and Supplies Dealers	99,576	2,636	264.7	\$9,209	38	51,958	8	5	2	30
4451	Grocery Stores	135,103	3,399	251.6	\$6,778	32	39,094	10	3	2	28
4421	Furniture Stores	38,995	1,027	263.4	\$5,624	33	46,589	9	12	5	47
4248	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	31,599	853	269.9	\$7,209	31	36,419	6	17	6	50
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	43,144	1,059	245.5	\$9,814	34	48,917	12	11	6	53
4413	Automotive Parts, Accessories, and Tire Stores	61,547	1,467	238.4	\$8,629	35	48,283	13	10	6	47
4442	Lawn and Garden Equipment and Supplies Stores	40,403	1,015	251.2	\$7,528	38	46,066	11	13	9	51
4539	Other Miscellaneous Store Retailers	193,377	3,410	176.3	\$9,941	40	34,708	26	2	10	60
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	17,203	611	355.2	\$11,812	38	67,080	1	28	11	54
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	96,908	1,916	197.7	\$9,703	45	40,179	22	7	11	62
4543	Direct Selling Establishments	42,236	926	219.2	\$11,147	48	49,557	16	15	13	70
4471	Gasoline Stations	90,133	1,745	193.6	\$9,256	50	40,710	24	8	14	69
4529	Other General Merchandise Stores	34,795	811	233.1	\$7,539	42	43,487	14	19	15	72
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	132,914	2,255	169.7	\$12,572	40	28,682	27	6	15	71
4411	Automobile Dealers	203,980	3,215	157.6	\$10,413	40	34,752	29	4	15	72
4239	Miscellaneous Durable Goods Merchant Wholesalers	48,734	970	199.0	\$7,327	31	29,831	21	14	18	81
4245	Farm Product Raw Material Merchant Wholesalers	8,935	252	282.0	\$9,500	44	53,847	3	36	19	104
4247	Petroleum and Petroleum Products Merchant Wholesalers	9,755	264	270.6	\$15,291	62	59,285	5	34	19	107
4533	Used Merchandise Stores	36,170	737	203.8	\$6,492	32	33,465	18	21	19	88
4422	Home Furnishings Stores	36,640	743	202.8	\$9,344	45	42,502	20	20	22	91
4412	Other Motor Vehicle Dealers	34,543	703	203.5	\$10,488	35	42,271	19	23	23	96
4542	Vending Machine Operators	4,077	121	296.8	\$9,677	54	80,034	2	42	24	151
4521	Department Stores	16,541	376	227.3	\$7,225	43	46,249	15	32	25	122

There were 46 industries in the Wholesale & Retail Trade Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 22. Prevention Index for all Industry Groups within the NORA Transportation, Warehousing & Utilities Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
4841	General Freight Trucking	89,627	4,985	556.2	\$10,779	55	137,877	2	1	1	4
4842	Specialized Freight Trucking	46,765	2,685	574.2	\$9,130	49	116,432	1	3	2	9
4884	Support Activities for Road Transportation	12,318	677	549.6	\$8,304	46	114,947	3	8	3	30
4811	Scheduled Air Transportation	14,958	717	479.3	\$7,538	38	64,346	7	6	4	33
2213	Water, Sewage and Other Systems	109,958	3,060	278.3	\$9,755	26	30,818	13	2	5	24
4852	Interurban and Rural Bus Transportation	13,125	655	499.1	\$8,588	39	75,599	6	9	5	36
4922	Local Messengers and Local Delivery	9,428	477	506.0	\$9,450	56	112,232	5	10	5	45
4931	Warehousing and Storage	46,696	1,185	253.8	\$10,792	44	44,680	14	4	8	46
4881	Support Activities for Air Transportation	32,594	814	249.7	\$6,464	33	36,662	15	5	9	62
4882	Support Activities for Rail Transportation	2,498	128	512.5	\$16,620	64	115,055	4	17	10	99
4921	Couriers and Express Delivery Services	9,336	371	397.4	\$6,245	35	75,144	8	13	10	67
4859	Other Transit and Ground Passenger Transportation	14,452	455	314.8	\$10,910	41	65,831	12	11	12	77
2211	Electric Power Generation, Transmission and Distribution	28,334	690	243.5	\$11,941	36	27,226	16	7	12	79
4889	Other Support Activities for Transportation	4,764	164	344.2	\$6,535	35	64,685	10	16	14	129
4855	Charter Bus Industry	3,735	123	329.4	\$6,471	45	55,959	11	18	15	139
4911	Postal Service	2,198	79	359.4	\$6,313	16	38,338	9	21	16	147
4853	Taxi and Limousine Service	8,167	167	204.5	\$12,724	59	45,279	18	15	17	180
4883	Support Activities for Water Transportation	15,981	316	197.7	\$10,715	43	34,968	19	14	17	160
4885	Freight Transportation Arrangement	34,053	426	125.1	\$8,388	43	24,731	22	12	19	185
2212	Natural Gas Distribution	4,812	99	205.7	\$7,824	32	14,980	17	20	20	195
4851	Urban Transit Systems	5,370	106	197.4	\$7,242	42	22,685	20	19	21	204
4854	School and Employee Bus Transportation	3,112	60	192.8	\$15,733	78	44,031	21	22	22	222
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	7,885	45	57.1	\$8,311	30	7,492	23	23	23	259

There were 23 industries in the Transportation, Warehousing & Utilities Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 23. Prevention Index for Top 25 Industry Groups within the NORA Services Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
5617	Services to Buildings and Dwellings	192,258	7,860	408.8	\$7,489	43	82,849	4	1	1	10
9221	Justice, Public Order, and Safety Activities	137,032	4,149	302.8	\$9,360	30	37,377	8	5	2	18
8111	Automotive Repair and Maintenance	132,964	3,730	280.5	\$10,053	45	65,058	9	6	3	20
5613	Employment Services	245,383	6,118	249.3	\$5,687	42	44,743	11	4	3	25
5621	Waste Collection	21,310	1,316	617.6	\$7,665	34	90,504	1	18	5	12
5311	Lessors of Real Estate	78,228	1,875	239.7	\$9,761	46	49,598	12	10	6	42
7211	Traveler Accommodation	143,566	3,067	213.6	\$6,443	38	42,793	17	7	7	43
9211	Executive, Legislative, and Other General Government Support	174,326	3,050	175.0	\$10,214	36	27,967	22	8	8	65
7139	Other Amusement and Recreation Industries	119,277	2,016	169.0	\$7,171	33	26,062	25	9	9	76
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	21,331	750	351.6	\$9,449	43	72,642	6	29	10	41
7223	Special Food Services	56,334	1,223	217.1	\$7,093	37	46,375	15	20	10	61
8114	Personal and Household Goods Repair and Maintenance	20,813	703	337.8	\$12,432	57	86,675	7	31	12	49
7221	Full-Service Restaurants	470,343	7,023	149.3	\$4,862	24	24,260	36	2	12	68
5313	Activities Related to Real Estate	110,988	1,750	157.7	\$10,301	44	39,096	29	11	14	81
5629	Remediation and Other Waste Management Services	14,777	565	382.4	\$16,984	72	87,876	5	36	15	51
5622	Waste Treatment and Disposal	10,944	449	410.3	\$8,007	31	63,855	3	43	16	58
7222	Limited-Service Eating Places	638,644	6,837	107.1	\$5,194	27	14,987	45	3	17	84
5321	Automotive Equipment Rental and Leasing	24,882	568	228.3	\$7,687	38	36,441	14	35	18	96
8129	Other Personal Services	90,669	1,361	150.1	\$7,029	39	27,342	35	15	19	94
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	32,568	661	203.0	\$12,772	45	40,398	19	33	20	103
7112	Spectator Sports	7,065	347	491.2	\$9,762	63	76,338	2	52	21	56
8123	Drycleaning and Laundry Services	26,516	554	208.9	\$9,175	46	45,547	18	37	22	112
7224	Drinking Places (Alcoholic Beverages)	67,862	1,025	151.0	\$7,103	38	31,114	34	22	23	107
5611	Office Administrative Services	51,495	805	156.3	\$7,706	40	31,444	30	27	24	120
8134	Civic and Social Organizations	53,445	829	155.1	\$8,723	43	32,109	31	26	24	117

There were 84 industries in the Services (except Public Safety) Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 24. Prevention Index for all Industry Groups within the NORA Healthcare & Social Assistance Sector in WA SF, 2002 - 2010.

4-digit NAICS (Industry Group)	NAICS Industry Group Description	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median days TL	Severity: TL	Within Sector Rate Rank	Within Sector Count Rank	Within Sector PI Rank	Overall PI Rank
6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	48,764	3,251	666.7	\$6,354	33	115,168	1	2	1	6
6231	Nursing Care Facilities	122,719	4,437	361.6	\$6,649	33	63,675	3	1	2	11
6243	Vocational Rehabilitation Services	55,612	2,179	391.8	\$5,206	28	60,168	2	5	3	15
6233	Community Care Facilities for the Elderly	96,742	2,740	283.2	\$7,686	39	56,851	4	3	3	23
6239	Other Residential Care Facilities	52,453	1,361	259.5	\$7,037	35	56,682	6	7	5	39
6216	Home Health Care Services	166,139	2,296	138.2	\$12,214	81	37,685	9	4	5	86
6241	Individual and Family Services	92,488	1,622	175.4	\$8,414	46	38,638	8	6	7	77
6221	General Medical and Surgical Hospitals	21,644	600	277.2	\$6,763	30	37,603	5	13	8	75
6219	Other Ambulatory Health Care Services	22,921	456	198.9	\$8,590	38	36,124	7	14	9	126
6244	Child Day Care Services	102,059	1,163	114.0	\$5,510	25	19,498	12	9	9	134
6214	Outpatient Care Centers	123,894	1,106	89.3	\$9,226	36	15,596	14	10	11	140
6211	Offices of Physicians	233,103	1,319	56.6	\$12,217	36	10,559	17	8	12	160
6242	Community Food and Housing, and Emergency and Other Relief Services	18,817	254	135.0	\$5,807	35	24,986	10	16	13	192
6213	Offices of Other Health Practitioners	101,095	786	77.7	\$15,054	58	18,355	15	11	13	168
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	13,316	167	125.4	\$8,601	49	26,949	11	17	15	221
6215	Medical and Diagnostic Laboratories	28,288	290	102.5	\$12,726	43	21,559	13	15	15	199
6212	Offices of Dentists	121,408	724	59.6	\$20,947	79	17,945	16	12	15	181

There were 17 industries in the Healthcare & Social Assistance Sector that met the claim count and FTE inclusion criteria (≥ 45 compensable WC claims over the period of the study and ≥ 100 FTE per year); the overall PI Rank is of all 262 industry groups (all sectors) that met the inclusion criteria. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE).

Table 25. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims, "All Injury Types", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
0510	Wood Frame Building Construction	98,996	9,181	927.4	\$8,799	54	222,107	\$47,103,969	13	2	17	19	1	3
7201	State Patient or Health Care Personnel, N.O.C.	31,685	3,810	1,202.5	\$5,531	31	207,786	\$40,577,440	6	12	19	28	2	5
0507	Roofing Work - Construction and Repair	23,645	3,193	1,350.4	\$10,579	82	358,944	\$83,403,178	5	21	5	4	3	1
1102	Trucking, N.O.C.	81,173	5,876	723.9	\$10,979	60	177,920	\$42,772,011	27	3	30	26	4	6
0516	Carpentry, N.O.C.	51,082	3,558	696.5	\$12,006	76	198,603	\$44,755,075	28	15	21	23	5	7
5001	Logging Operations, N.O.C.	6,287	1,739	2,766.2	\$11,605	63	836,357	\$209,888,217	1	44	1	1	6	2
0101	Excavation and Grading, N.O.C.	61,182	3,855	630.1	\$12,792	81	161,191	\$44,838,276	36	11	37	22	7	11
0540	Wallboard Installation - Discounted Rate	9,614	1,506	1,566.5	\$15,606	125	546,613	\$124,058,077	2	52	3	2	8	4
0518	Non Wood Frame Building Construction	53,485	3,300	617.0	\$15,742	145	163,157	\$48,630,991	37	18	36	18	9	12
7117	Temporary Help - Machine Operation	9,120	1,396	1,530.6	\$5,109	35	266,836	\$43,358,452	3	59	9	25	10	8
0504	Painting: Building and Structures - Exterior Work	22,910	1,689	737.2	\$12,231	88	235,457	\$52,070,548	25	45	13	14	11	9
6907	Moving and Storage Companies	12,737	1,357	1,065.4	\$5,228	34	186,001	\$33,976,790	9	62	25	39	12	16
4305	Solid Waste Collection Services/Landfill Operations	18,235	1,502	823.7	\$7,146	34	123,528	\$30,394,689	18	53	47	48	12	20
1101	Parcel and Package Delivery Service	76,883	3,975	517.0	\$8,003	42	102,915	\$20,823,012	63	10	58	75	14	30
0217	Concrete Work - Foundations and Sidewalks	37,577	2,230	593.5	\$8,178	57	143,881	\$31,265,025	43	34	41	43	15	18
0306	Plumbing	61,227	3,209	524.1	\$11,341	58	117,746	\$30,945,222	60	20	48	45	16	23
0307	HVAC Systems, Installation, Service and Repair	51,501	2,751	534.2	\$8,850	46	107,798	\$27,074,648	54	27	55	53	17	26
0302	Masonry Construction	13,835	1,251	904.2	\$12,070	82	270,465	\$68,229,288	15	67	8	8	18	10
0511	Glass Installation: Buildings	12,686	1,035	815.8	\$10,178	48	168,716	\$39,534,926	20	72	32	29	19	17
7118	Temporary Help - Construction	7,225	866	1,198.6	\$6,323	44	260,450	\$46,398,863	7	86	10	21	20	13
2903	Wood Products Manufacturing, N.O.C.	55,914	2,840	507.9	\$7,000	28	87,155	\$18,043,188	67	26	82	95	20	44
0502	Floor Covering Installation	14,098	958	679.5	\$9,505	61	183,930	\$36,107,875	30	76	26	34	22	20
5307	State Government - All Other Employees, N.O.C.	99,738	3,999	400.9	\$10,146	38	72,155	\$17,407,574	99	9	111	101	23	59
0301	Landscape Construction and Renovation	38,604	1,907	494.0	\$6,241	39	91,205	\$18,130,898	70	41	74	93	24	47
0512	Insulation Installation and Asbestos Abatement Work	12,668	867	684.4	\$9,733	67	179,242	\$43,860,529	29	85	29	24	25	22
7119	Temporary Help - Vehicle Operation	2,608	356	1,365.0	\$4,370	30	228,570	\$33,228,438	4	157	15	41	56	33

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 26. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Work-related Musculoskeletal Disorders", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
7201	State Patient or Health Care Personnel, N.O.C.	31,685	1,318	416.0	\$5,561	34	71,324	\$13,974,943	9	18	36	45	1	9
0510	Wood Frame Building Construction	98,996	2,710	273.7	\$12,547	83	88,572	\$16,998,145	26	4	25	26	2	4
6108	Nursing Homes	155,791	3,525	226.3	\$6,464	35	43,743	\$7,396,346	38	2	82	101	3	35
1102	Trucking, N.O.C.	81,173	1,940	239.0	\$13,820	77	65,038	\$14,240,492	33	8	41	42	4	13
0507	Roofing Work - Construction and Repair	23,645	976	412.8	\$13,097	103	124,459	\$25,555,209	10	33	8	10	5	2
0516	Carpentry, N.O.C.	51,082	1,246	243.9	\$15,093	97	85,637	\$17,581,932	32	23	27	22	6	8
0540	Wallboard Installation - Discounted Rate	9,614	650	676.1	\$28,527	211	306,036	\$65,778,148	1	55	2	1	7	1
6907	Moving and Storage Companies	12,737	657	515.8	\$5,817	40	102,922	\$17,814,389	5	53	14	21	8	6
0518	Non Wood Frame Building Construction	53,485	1,242	232.2	\$24,555	205	81,344	\$22,004,010	35	24	30	12	9	7
1101	Parcel and Package Delivery Service	76,883	1,645	214.0	\$9,994	48	46,739	\$8,725,308	48	11	72	79	9	33
6904	County and City Fire Fighters - Salaried	38,087	987	259.1	\$7,454	26	18,928	\$6,210,538	28	32	180	125	11	88
2105	Beer, Wine and Soft Drink Distributors	28,217	811	287.4	\$6,050	33	43,656	\$8,932,193	24	38	83	75	12	34
4305	Solid Waste Collection Services/Landfill Operations	18,235	676	370.7	\$9,169	39	64,260	\$15,153,823	13	50	42	37	13	16
0306	Plumbing	61,227	1,320	215.6	\$15,254	75	61,384	\$14,810,912	47	17	45	38	14	17
0302	Masonry Construction	13,835	577	417.0	\$18,553	147	160,354	\$38,006,080	8	58	5	4	15	3
0217	Concrete Work - Foundations and Sidewalks	37,577	921	245.1	\$14,711	103	74,467	\$15,833,478	31	35	33	31	15	15
7117	Temporary Help - Machine Operation	9,120	522	572.3	\$6,663	56	143,048	\$19,832,014	3	64	6	18	17	5
0307	HVAC Systems, Installation, Service and Repair	51,501	1,130	219.4	\$11,447	62	55,643	\$12,660,267	43	27	52	49	18	24
5307	State Government - All Other Employees, N.O.C.	99,738	1,875	188.0	\$11,858	44	39,531	\$8,632,771	72	9	97	83	19	44
0502	Floor Covering Installation	14,098	495	351.1	\$12,152	88	109,196	\$21,066,452	16	67	10	15	20	9
1501	County and Tribal Councils-All Other Employees, N.O.C.	56,346	1,116	198.1	\$9,603	38	33,180	\$8,164,190	58	28	123	90	21	56
0511	Glass Installation: Buildings	12,686	450	354.7	\$13,105	63	89,185	\$20,548,343	15	74	24	16	22	14
0101	Excavation and Grading, N.O.C.	61,182	1,184	193.5	\$18,596	116	61,464	\$15,685,052	67	25	44	32	23	21
2102	Warehouses, N.O.C., Grocery Dist, & Recycle Centers	33,352	713	213.8	\$6,278	34	33,938	\$6,738,155	49	47	118	114	24	71
0301	Landscape Construction and Renovation	38,604	769	199.2	\$8,189	55	48,544	\$8,876,086	55	41	64	77	24	38

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 27. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Struck By/Against", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
0510	Wood Frame Building Construction	98,996	2,495	252.0	\$5,120	28	34,452	\$8,273,423	6	2	9	14	1	2
5001	Logging Operations, N.O.C.	6,287	665	1057.8	\$9,216	55	351,876	\$100,158,299	1	10	1	1	2	1
0507	Roofing Work - Construction and Repair	23,645	516	218.2	\$3,478	24	28,232	\$5,787,743	9	13	20	30	3	6
0516	Carpentry, N.O.C.	51,082	774	151.5	\$6,966	40	26,300	\$5,803,872	21	5	23	29	4	8
2903	Wood Products Manufacturing, N.O.C.	55,914	762	136.3	\$4,894	16	15,100	\$3,627,075	26	7	60	64	5	17
0101	Excavation and Grading, N.O.C.	61,182	814	133.0	\$8,050	54	29,564	\$9,111,519	30	4	16	9	6	3
7117	Temporary Help - Machine Operation	9,120	342	375.0	\$3,538	27	36,579	\$7,107,010	3	34	7	18	7	4
0518	Non Wood Frame Building Construction	53,485	609	113.9	\$7,821	64	22,621	\$7,902,625	40	11	31	16	8	9
0217	Concrete Work - Foundations and Sidewalks	37,577	450	119.8	\$4,583	31	20,175	\$4,548,943	37	18	35	49	9	13
0540	Wallboard Installation - Discounted Rate	9,614	235	244.4	\$6,840	43	49,592	\$12,403,658	7	51	5	4	10	5
7118	Temporary Help - Construction	7,225	221	305.9	\$3,613	32	52,123	\$9,077,591	4	55	4	10	11	7
5208	Iron Works - Shop	14,311	240	167.7	\$5,448	26	19,122	\$4,991,075	15	50	40	42	12	15
0511	Glass Installation: Buildings	12,686	224	176.6	\$6,460	22	24,098	\$6,199,512	14	53	25	22	13	10
2907	Cabinet and Countertop Manufacturing - Wood	36,645	412	112.4	\$5,208	21	9,073	\$2,355,612	42	25	94	94	13	47
0513	Interior Finish Carpentry	46,912	476	101.5	\$4,850	21	9,955	\$2,810,424	52	15	84	79	13	40
7114	Temporary Help - Assembly	24,315	310	127.5	\$2,859	27	14,003	\$2,636,881	31	38	63	85	16	37
1102	Trucking, N.O.C.	81,173	709	87.3	\$6,773	37	17,629	\$4,645,463	65	8	49	47	17	22
6907	Moving and Storage Companies	12,737	203	159.4	\$3,796	26	21,713	\$3,935,317	18	60	33	54	18	19
0302	Masonry Construction	13,835	202	146.0	\$6,439	41	23,073	\$6,397,008	22	61	28	21	19	11
0307	HVAC Systems, Installation, Service and Repair	51,501	446	86.6	\$5,849	29	12,715	\$3,700,575	66	19	71	60	20	36
0306	Plumbing	61,227	495	80.8	\$6,706	33	13,724	\$3,619,269	74	14	66	66	21	39
1002	Sawmills and Automated Shake and Shingle Mills	26,280	279	106.2	\$7,217	29	17,319	\$5,287,535	48	42	52	39	22	26
0301	Landscape Construction and Renovation	38,604	361	93.5	\$3,175	20	8,788	\$1,962,612	61	31	96	110	23	62
4305	Solid Waste Collection Services/Landfill Operations	18,235	211	115.7	\$4,862	32	17,713	\$3,702,332	39	57	48	59	24	33
3404	Metal Goods Manufacturing, N.O.C. - Under 9 Gauge	59,552	471	79.1	\$5,215	22	8,419	\$2,616,172	80	16	102	86	24	56
7119	Temporary Help - Vehicle Operation	2,608	71	272.2	\$2,940	20	31,004	\$5,714,051	5	133	13	31	52	27
4803	Orchards	211,564	827	39.1	\$3,675	26	4,922	\$1,047,878	153	3	144	158	62	112
0517	Factory Built Home Set-Up By Contractor/Manufacturer	1,134	46	405.5	\$5,181	35	66,746	\$17,559,829	2	169	2	2	66	24
3905	Restaurants and Taverns	958,752	2,640	27.5	\$2,041	14	2,417	\$537,800	186	1	196	208	80	158

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 28. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Fall on Same Level", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
7201	State Patient or Health Care Personnel, N.O.C.	31,685	375	118.4	\$6,427	31	18,133	\$3,638,958	4	16	15	18	1	4
1102	Trucking, N.O.C.	81,173	580	71.5	\$11,695	71	19,130	\$4,062,034	14	7	13	12	2	3
0510	Wood Frame Building Construction	98,996	604	61.0	\$10,212	76	17,038	\$3,438,419	22	4	17	20	3	5
0507	Roofing Work - Construction and Repair	23,645	300	126.9	\$12,868	121	37,552	\$8,375,088	3	25	3	3	4	1
4905	Motels and Hotels	91,453	557	60.9	\$7,067	46	13,712	\$2,328,967	23	9	24	37	5	9
5001	Logging Operations, N.O.C.	6,287	225	357.9	\$6,856	50	92,182	\$19,991,592	1	35	1	1	6	2
7103	State Government - Law Enforcement Officers	52,131	323	62.0	\$10,390	36	10,725	\$3,169,201	20	20	43	22	7	10
6108	Nursing Homes	155,791	747	47.9	\$8,152	39	8,687	\$1,692,659	40	2	69	81	8	30
6602	Janitorial Service	84,008	451	53.7	\$8,346	57	12,553	\$2,032,664	29	14	32	53	9	15
5307	State Government - All Other Employees, N.O.C.	99,738	457	45.8	\$10,960	41	7,843	\$2,044,265	45	12	80	52	10	29
0518	Non Wood Frame Building Construction	53,485	278	52.0	\$18,365	174	17,505	\$4,614,419	34	26	16	9	11	8
1101	Parcel and Package Delivery Service	76,883	352	45.8	\$8,506	55	10,854	\$2,262,034	46	17	40	40	12	22
6705	Ski Facilities	5,208	108	207.4	\$9,361	38	22,842	\$5,616,502	2	63	7	8	13	7
6104	Schools, Churches and Day Care - All Other Staff	52,088	258	49.5	\$8,827	42	9,633	\$1,786,563	36	30	54	72	14	30
0540	Wallboard Installation - Discounted Rate	9,614	104	108.2	\$16,221	163	38,326	\$8,574,737	5	66	2	2	15	6
0308	Lawn Care Maintenance	47,457	230	48.5	\$9,661	50	10,350	\$1,838,864	38	33	47	65	15	28
6511	Chore Services	81,741	348	42.6	\$9,880	57	10,212	\$1,654,153	56	18	48	88	17	35
3407	Gas or Oil Dealers	20,745	127	61.2	\$8,521	43	12,090	\$3,268,511	21	54	34	21	18	16
0217	Concrete Work - Foundations and Sidewalks	37,577	184	49.0	\$8,003	67	11,482	\$2,657,539	37	39	35	29	19	20
6509	Boarding Homes and Retirement Centers	178,575	664	37.2	\$7,449	45	8,029	\$1,467,503	75	3	78	101	20	50
4305	Solid Waste Collection Services/Landfill Operations	18,235	114	62.5	\$11,304	47	7,919	\$1,867,451	19	60	79	62	21	39
6110	Home Health Services and Nursing Care, N.O.C.	21,273	124	58.3	\$10,604	60	15,925	\$3,823,795	25	56	19	15	22	11
0101	Excavation and Grading, N.O.C.	61,182	267	43.6	\$13,629	104	13,439	\$3,542,748	54	27	27	19	22	14
0516	Carpentry, N.O.C.	51,082	229	44.8	\$15,201	90	13,804	\$2,898,826	49	34	23	25	24	17
0301	Landscape Construction and Renovation	38,604	180	46.6	\$11,452	70	10,856	\$2,217,766	44	40	39	41	25	25
3905	Restaurants and Taverns	958,752	2,800	29.2	\$5,819	38	6,048	\$996,880	109	1	112	135	35	85
6103	Schools, Churches and Day Care - Prof./Clerical Staff	379,429	602	15.9	\$9,778	29	2,242	\$519,129	162	5	186	182	68	139

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 29. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Fall from Elevation", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
0507	Roofing Work - Construction and Repair	23,645	853	360.7	\$22,020	139	127,828	\$34,293,168	1	4	1	1	1	1
0504	Painting: Building and Structures - Exterior Work	22,910	568	247.9	\$17,528	131	90,007	\$20,156,874	4	6	4	4	2	2
0510	Wood Frame Building Construction	98,996	1,747	176.5	\$15,273	96	55,935	\$12,374,712	8	2	8	9	2	4
4803	Orchards	211,564	2,286	108.1	\$9,005	86	23,750	\$3,437,315	14	1	20	37	4	11
0540	Wallboard Installation - Discounted Rate	9,614	259	269.4	\$18,315	180	98,400	\$23,898,030	2	18	2	2	5	3
1102	Trucking, N.O.C.	81,173	865	106.6	\$12,138	63	28,764	\$6,482,755	17	3	17	19	5	8
0516	Carpentry, N.O.C.	51,082	550	107.7	\$25,675	178	43,821	\$11,618,078	15	7	11	10	7	6
0541	Wallboard Taping - Discounted Rate	10,117	229	226.4	\$13,495	119	64,284	\$15,126,306	5	21	7	6	8	5
5001	Logging Operations, N.O.C.	6,287	158	251.3	\$9,133	64	88,487	\$20,068,992	3	36	5	5	9	7
0307	HVAC Systems, Installation, Service and Repair	51,501	360	69.9	\$14,179	71	17,613	\$4,441,632	26	13	32	31	9	17
0101	Excavation and Grading, N.O.C.	61,182	406	66.4	\$20,016	139	22,997	\$5,863,048	29	12	21	24	11	13
0512	Insulation Installation and Asbestos Abatement Work	12,668	180	142.1	\$10,781	69	38,247	\$9,526,740	10	33	12	11	12	9
1101	Parcel and Package Delivery Service	76,883	444	57.8	\$10,722	56	11,183	\$2,529,866	37	9	51	53	13	24
0518	Non Wood Frame Building Construction	53,485	326	61.0	\$29,632	221	18,327	\$6,107,517	33	14	30	22	14	16
0521	Painting: Buildings - Interior Work	32,231	225	69.8	\$16,458	132	26,267	\$5,241,177	27	22	19	25	15	15
0519	Sheet Metal Siding, Gutters and Downspout Installation	6,290	122	194.0	\$12,328	90	71,782	\$14,918,998	6	48	6	7	16	10
0601	Electrical Wiring: Buildings and Structures	96,683	457	47.3	\$11,355	69	10,527	\$2,609,247	46	8	55	50	16	28
0306	Plumbing	61,227	326	53.2	\$15,527	90	15,689	\$4,246,234	42	14	35	32	18	20
6602	Janitorial Service	84,008	409	48.7	\$9,092	75	12,243	\$2,448,044	45	11	46	55	18	27
7118	Temporary Help - Construction	7,225	117	161.9	\$14,465	102	48,419	\$9,053,412	9	51	10	13	20	12
0302	Masonry Construction	13,835	134	96.9	\$16,523	157	36,615	\$9,258,020	19	43	13	12	21	14
6907	Moving and Storage Companies	12,737	131	102.8	\$5,904	31	21,434	\$4,814,783	18	45	23	28	22	19
0217	Concrete Work - Foundations and Sidewalks	37,577	197	52.4	\$13,364	108	16,005	\$3,027,365	44	29	34	43	23	24
4910	Property and Building Management Services	126,473	433	34.2	\$17,022	75	10,915	\$2,349,756	65	10	52	59	24	35
0511	Glass Installation: Buildings	12,686	109	85.9	\$11,391	81	20,602	\$4,484,890	21	56	25	30	25	21
3905	Restaurants and Taverns	958,752	582	6.1	\$5,064	31	961	\$178,072	161	5	162	172	79	129

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 30. Top 25 Risk Class by Prevention Index for WA SF Compensable Claims for Work 'Overexertion', 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
0510	Wood Frame Building Construction	98,996	417	42.1	\$7,243	43	6,963	\$1,443,499	11	2	11	10	1	1
0302	Masonry Construction	13,835	83	60.0	\$9,082	43	13,392	\$3,606,536	4	44	1	1	11	2
0507	Roofing Work - Construction and Repair	23,645	112	47.4	\$6,283	54	8,403	\$1,637,653	7	31	6	9	6	3
0516	Carpentry, N.O.C.	51,082	171	33.5	\$6,869	38	5,238	\$1,173,373	15	13	15	15	2	4
7117	Temporary Help - Machine Operation	9,120	70	76.8	\$5,371	29	12,136	\$2,094,603	1	52	2	5	12	5
0540	Wallboard Installation - Discounted Rate	9,614	64	66.6	\$8,723	53	12,098	\$2,644,363	3	56	3	2	16	6
0518	Non Wood Frame Building Construction	53,485	173	32.3	\$6,799	54	3,841	\$1,362,659	19	11	25	12	3	7
0217	Concrete Work - Foundations and Sidewalks	37,577	119	31.7	\$7,393	44	7,213	\$1,384,313	20	26	10	11	10	7
6907	Moving and Storage Companies	12,737	88	69.1	\$5,524	33	5,309	\$1,040,169	2	39	14	17	7	9
1102	Trucking, N.O.C.	81,173	245	30.2	\$7,629	43	4,017	\$831,636	27	4	23	27	5	10
0511	Glass Installation: Buildings	12,686	59	46.5	\$6,600	42	8,173	\$1,785,627	9	59	7	7	21	11
1101	Parcel and Package Delivery Service	76,883	239	31.1	\$5,944	30	3,457	\$740,850	25	5	36	34	3	14
0306	Plumbing	61,227	173	28.3	\$7,990	38	3,802	\$788,421	32	11	28	29	8	14
2105	Beer, Wine and Soft Drink Distributors	28,217	111	39.3	\$5,846	27	3,820	\$786,804	13	32	26	30	9	16
0513	Interior Finish Carpentry	46,912	115	24.5	\$7,803	35	4,644	\$957,258	44	28	18	19	23	17
6409	Machinery and Machinery Dealers, N.O.C.	36,375	101	27.8	\$6,971	27	3,504	\$1,031,427	33	36	32	18	22	18
0301	Landscape Construction and Renovation	38,604	111	28.8	\$6,657	39	3,818	\$646,252	30	32	27	43	18	20
0101	Excavation and Grading, N.O.C.	61,182	154	25.2	\$6,562	42	3,296	\$778,376	43	17	41	32	17	21
2907	Cabinet and Countertop Manufacturing - Wood	36,645	114	31.1	\$5,492	22	3,030	\$654,434	24	29	45	42	12	23
1002	Sawmills and Automated Shake and Shingle Mills	26,280	83	31.6	\$6,645	27	2,684	\$887,069	23	44	51	23	20	24
3402	Machine Shops and Machinery Mfg., N.O.C.	90,984	210	23.1	\$6,221	25	2,625	\$517,898	48	7	55	56	14	34
0307	HVAC Systems, Installation, Service and Repair	51,501	139	27.0	\$6,531	29	2,076	\$636,329	36	20	70	46	15	37
2903	Wood Products Manufacturing, N.O.C.	55,914	128	22.9	\$6,456	24	2,716	\$482,503	50	23	50	64	24	41
3411	Automobile Dealers, Rentals and Service Shops	157,664	308	19.5	\$7,513	31	2,105	\$503,118	62	3	69	58	19	42
3404	Metal Goods Manufacturing, N.O.C. - Under 9 Gauge	59,552	134	22.5	\$6,564	27	2,243	\$502,198	52	22	61	59	25	44
7118	Temporary Help - Construction	7,225	41	56.7	\$7,365	47	11,101	\$2,568,772	5	79	4	3	33	13
3905	Restaurants and Taverns	958,752	457	4.8	\$5,959	30	498	\$86,084	123	1	118	125	65	98

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 31. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Caught In/Under/Between", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
7117	Temporary Help - Machine Operation	9,120	158	173.2	\$5,244	34	20,727	\$4,508,851	1	8	2	2	1	1
2903	Wood Products Manufacturing, N.O.C.	55,914	277	49.5	\$8,172	28	6,171	\$1,782,325	8	1	12	12	1	4
1002	Sawmills and Automated Shake and Shingle Mills	26,280	150	57.1	\$8,604	43	8,079	\$2,629,326	5	10	6	3	3	2
5001	Logging Operations, N.O.C.	6,287	88	140.0	\$9,765	61	33,004	\$9,075,856	2	28	1	1	4	3
5208	Iron Works - Shop	14,311	83	58.0	\$7,894	23	4,160	\$1,148,041	4	30	24	25	5	6
3906	Bakeries - Wholesale, N.O.C.	24,170	100	41.4	\$8,529	19	3,172	\$1,016,214	12	22	40	32	5	12
0101	Excavation and Grading, N.O.C.	61,182	196	32.0	\$8,569	43	4,133	\$1,485,410	29	6	25	16	7	5
3404	Metal Goods Manufacturing, N.O.C. - Under 9 Gauge	59,552	190	31.9	\$9,563	31	2,645	\$856,145	30	7	52	43	8	19
2907	Cabinet and Countertop Manufacturing - Wood	36,645	122	33.3	\$6,254	18	1,990	\$616,448	27	15	65	70	9	37
3402	Machine Shops and Machinery Mfg., N.O.C.	90,984	232	25.5	\$7,295	20	1,803	\$636,630	42	3	69	66	10	39
5209	Metal Goods Manufacturing, N.O.C. - 9 Gauge or More	15,828	64	40.4	\$5,498	17	3,373	\$971,062	14	37	37	36	11	17
2104	Fruit & Vegetable Packing - Fresh	109,362	264	24.1	\$7,595	31	2,982	\$730,629	50	2	45	54	12	25
3304	Meat, Fish and Poultry Dealers - Wholesale	39,426	110	27.9	\$7,266	27	2,816	\$657,446	37	18	48	61	13	30
3902	Fruit/Vegetable Canneries/Food Product Mfg., N.O.C.	52,498	133	25.3	\$9,271	39	5,212	\$1,002,936	43	13	16	33	14	11
2004	Iron and Steel Merchants	9,216	52	56.4	\$9,672	30	2,092	\$906,356	6	51	62	39	15	27
7114	Temporary Help - Assembly	24,315	82	33.7	\$4,305	39	5,346	\$728,377	25	32	14	55	15	18
0510	Wood Frame Building Construction	98,996	232	23.4	\$8,780	45	2,819	\$663,128	55	3	47	60	17	31
6908	Paper Products Manufacturing	10,857	49	45.1	\$10,865	40	6,656	\$2,075,123	9	55	11	10	18	7
5103	Foundries, N.O.C.	12,333	50	40.5	\$10,955	20	2,710	\$1,236,350	13	53	51	19	19	21
2102	Warehouses, N.O.C., Grocery Dist, & Recycle Centers	33,352	90	27.0	\$6,512	25	2,985	\$752,924	39	27	44	53	19	29
3510	Plastic Goods Mfg., N.O.C.	55,258	131	23.7	\$8,438	27	1,744	\$656,599	52	14	71	62	19	45
4101	Printing	37,485	94	25.1	\$5,546	22	2,384	\$710,368	44	23	56	58	22	40
2002	Freight Handling Services	16,220	56	34.5	\$6,423	39	4,651	\$1,221,911	24	46	21	21	23	13
6409	Machinery and Machinery Dealers, N.O.C.	36,375	91	25.0	\$7,995	24	1,653	\$797,916	45	26	72	50	24	43
0103	Drilling and Geophysical Exploration, N.O.C.	4,526	37	81.8	\$9,285	42	4,695	\$1,628,965	3	69	18	14	25	10
3905	Restaurants and Taverns	958,752	208	2.2	\$2,213	15	189	\$37,285	146	5	141	146	73	117

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Table 32. Top 25 Risk Classes by Prevention Index for WA SF Compensable Claims for "Motor Vehicle", 2002-2010.

Risk Class	WIC Industry	FTE	# Claims (COUNT)	Claim Rate / 10,000 FTE (RATE)	Median Cost	Median Days TL	Severity: TL	Severity: Cost	Rate Rank	Count Rank	TL days rank	Cost Rank	PI Rank	Expanded PI Rank
1102	Trucking, N.O.C.	81,173	599	73.8	\$13,686	84	25,908	\$7,252,938	4	1	4	3	1	1
1101	Parcel and Package Delivery Service	76,883	327	42.5	\$10,758	71	11,999	\$2,467,002	11	3	10	12	2	4
5003	Log Hauling	7,186	98	136.4	\$29,246	112	47,355	\$13,786,038	2	15	1	1	3	2
1404	Cabulance and Paratransit	5,687	89	156.5	\$15,303	68	35,907	\$8,097,964	1	20	3	2	4	3
1407	Bus Companies - Private	16,069	95	59.1	\$9,299	70	9,374	\$2,208,014	5	17	14	18	5	7
6905	County and City Law Enforcement Officers	32,048	128	39.9	\$10,405	26	4,402	\$2,339,566	13	12	38	14	6	8
1501	County and Tribal Councils-All Other Employees, N.O.C.	56,346	178	31.6	\$6,591	30	4,845	\$1,107,953	17	8	33	36	6	11
0101	Excavation and Grading, N.O.C.	61,182	174	28.4	\$27,649	188	10,276	\$3,036,602	20	9	12	8	8	6
6602	Janitorial Service	84,008	191	22.7	\$7,815	43	5,248	\$1,078,426	25	6	29	39	9	17
7103	State Government - Law Enforcement Officers	52,131	144	27.6	\$11,032	21	2,204	\$918,563	22	10	63	42	10	26
1109	Auto Towing Services	6,007	64	106.5	\$21,448	113	37,999	\$7,112,619	3	30	2	4	11	5
4305	Solid Waste Collection Services/Landfill Operations	18,235	69	37.8	\$7,899	40	5,062	\$1,826,436	15	29	30	21	12	13
4808	Diversified Field Crops	39,066	83	21.2	\$11,912	70	5,751	\$1,675,853	28	22	24	23	13	15
6511	Chore Services	81,741	134	16.4	\$12,309	65	4,346	\$719,482	40	11	40	51	14	27
3411	Automobile Dealers, Rentals and Service Shops	157,664	226	14.3	\$8,241	42	2,906	\$632,717	49	4	53	60	15	36
0607	Household Appliance Installation, Service and Repair	37,280	79	21.2	\$18,304	83	6,561	\$1,607,681	29	25	19	25	16	16
0308	Lawn Care Maintenance	47,457	87	18.3	\$13,999	63	3,414	\$825,177	35	21	45	45	17	30
3101	Redi-Mix Concrete Dealers	10,683	42	39.3	\$13,100	56	7,702	\$2,337,929	14	48	16	15	18	10
0307	HVAC Systems, Installation, Service and Repair	51,501	83	16.1	\$7,878	32	2,903	\$885,075	41	22	54	43	19	34
6309	Hardware, Auto Parts and Sporting Good Stores	193,257	216	11.2	\$9,522	41	2,244	\$445,129	59	5	61	71	20	53
5307	State Government - All Other Employees, N.O.C.	99,738	128	12.8	\$19,858	51	2,709	\$792,291	53	12	56	49	21	39
1105	Septic Tank Pumping and Street Sweeping Services	8,562	36	42.0	\$21,937	100	16,338	\$3,542,829	12	57	5	5	22	9
6110	Home Health Services and Nursing Care, N.O.C.	21,273	46	21.6	\$10,612	66	5,277	\$1,091,359	26	45	28	37	23	25
0107	Underground Utility Line Const. & Pipelaying, N.O.C.	25,874	49	18.9	\$28,717	104	5,860	\$2,361,891	33	39	23	13	24	20
2202	Carpet Cleaning	5,301	30	56.6	\$7,820	41	14,440	\$2,208,859	8	65	6	17	25	14
6303	Sales Personnel - Outside, N.O.C.	495,258	344	6.9	\$17,593	55	1,415	\$536,886	71	2	75	67	25	58

Expanded PI rank takes into account: Rate Rank, Count Rank, TL days, and Cost. State Fund (SF) compensable claims only; FTE = (hours/2000); Severity TL = (TL days/10,000 FTE); Severity: Cost = (Total \$/10,000 FTE). Included are industry groups in the Top 5 by Count or Rate Rank (grey shade) but not in the Top 25 by Prevention Index.

Mine Accident, Injury and Illness Report

Green=Data fields collected and posted by MSHA. Yellow=Data collected but not posted on the web.



▶ **Section A - Identification Data**

Approved For Use Through 1/31/2021 OMB No. 1219-0007

MSHA ID number Contractor ID Report Category Metal/Nonmetal Mining Coal Mining Check here if report pertains to contractor

Mine name Company Name

▶ **Section B - Complete for Each Reportable Accident Immediately Reported to MSHA**

1. Accident Code (check applicable code - see instructions) 01 - Death 02 - Serious Injury 03 - Entrapment
 04 - Inundation 05 - Gas or Dust Ignition 06 - Mine Fire 07 - Explosives 08 - Roof Fall
 09 - Outburst 10 - Impounding Dam 11 - Hoisting 12 - Offsite Injury

2. Name of investigator 3. Date investigation started 4. Steps taken to prevent recurrence of accident

▶ **Section C - Complete for Each Reportable Accident, Injury or Illness**

5. Check the codes which best describe where accident/injury/illness occurred (see instructions)

(a) Surface Location: 02 - Surface at Underground Mine 30 - Mill, Preparation Plant, etc. 03 - Strip/Open Pit Mine 04 - Surface Auger Operation
 05 - Culm Bank/Refuse Pile 06 - Dredge Mining 12 - Other Surface Mining 17 - Independent Shops (with own MSHA ID) 99 - Office Facilities

(b) Underground Location: 01 - Vertical Shaft 02 - Slope/Inclined Shaft 03 - Face 04 - Intersection 05 - Underground Shop/Office 06 - Other

(c) Underground Mining Method: 01 - Longwall 02 - Shortwall 03 - Conventional Stoping 05 - Continuous Mining 06 - Hand 07 - Caving 08 - Other

6. Date of accident 7. Time of accident am pm 8. Time shift started am pm

9. Describe fully the conditions contributing to the accident/injury/illness, and quantify the damage or impairment

10. Equipment involved Type Manufacturer Model number

11. Name of witness to accident/injury/illness 12. Number of reportable injuries or illnesses resulting from this occurrence

13. Name of injured/ill employee 14. Sex male female 15. Date of birth

16. Last four digits of Social Security number 17. Regular job title 18. Check if this injury/illness resulted in death 19. Check if injury/illness resulted in permanent disability (include amputation, loss of use & permanent total disability)

20. What directly inflicted injury or illness? 21. Nature of injury or illness

22. Part of body injured or affected 23. Occupational illness (check applicable code - see instructions) 21 - Occupational Skin Diseases
 22 - Dust Diseases of the Lungs 23 - Respiratory Conditions (Toxic Agents) 24 - Poisoning (Toxic Materials)
 25 - Disorders (Physical Agents) 26 - Disorders (Repeated Trauma) 29 - Other

24. Employee's work activity when injury or illness occurred	Experience	Years	Weeks
	25. Experience in this job title		
	26. Experience at this mine		
	27. Total mining experience		

For official use only

Degree _____
 Accident Type _____
 Accident Class _____
 Scheduled Charge _____
 Keyword _____

▶ **Section D - Return to Duty Information**

Answer 30 & 31 when case is closed

28. Permanently transferred or terminated (if checked, complete items 29, 30, and 31) 29. Date returned to regular job at full capacity (or item 28) month day year 30. Number of days away from work (if none enter 0) 31. Number of days restricted work activity (if none, enter 0)

Person completing form (name) Title

Date this report prepared (month, day, year) Area code and phone number

Logger Safety Initiative: Findings from the initial safety consultations

Technical Report Number 11-05-2018

June 2018

Sara Wuellner, Epidemiologist

Safety and Health Assessment and Research for Prevention (SHARP) Program
Washington State Department of Labor & Industries
PO Box 44330
Olympia, WA 98504-4330
www.Lni.wa.gov/Safety/Research/

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EXECUTIVE SUMMARY

To improve the safety culture of the manual logging industry throughout Washington State, private landowners, the Washington Contract Loggers Association, logging companies, the Washington Department of Natural Resources, and the Washington Department of Labor & Industries (L&I) partnered to create the Washington State Logger Safety Initiative (LSI). Participation in LSI is voluntary. Employers who elect to participate are required to undergo an annual consultation with the L&I Division of Occupational Safety and Health (DOSH). During the consultation, DOSH evaluates each cutter and logging side to document existing hazards and evaluate the employer's safety and health program. Here we present findings from consultations conducted for initial entry into the LSI program.

Key Findings

Safety and Health Program Assessment

- Of the 105 employers who received Safety and Health Program Assessment (SHPA) scores, most performed well: 10 (9.5%) received a perfect score and 77 (73.3%) needed only minimal improvement on one or more items in the assessment.
- Injury rates generally correlated with SHPA scores, with higher rates of traumatic injuries among employers with poorer scores, and lower rates of traumatic injuries among employers with the best scores.
- Among employers with lower SHPA scores, rates of traumatic injuries did not change from the years before the assessment to the years after.

Hazards

- Hazards were identified at 90% of employers, and serious hazards were identified at 74% of employers.
- The most common serious hazards involved chainsaws (29% of employers) and PPE (28% of employers).
- Rates of traumatic injuries were slightly higher among employers with the greatest number of hazards.

Conclusion

Even among the employers who joined LSI – a group with low injury rates relative to employers who declined to participate in LSI – there exists a range of safety performance. Although logging hazards were documented in nearly every consultation, no hazard was present at every site, suggesting that employers can control whether logging hazards are present in their work environment. There is room for improved workplace safety in manual logging, which should lead to lower injury rates among the risk class.

INTRODUCTION

Logging, specifically manual (non-mechanized) logging, is among the most dangerous occupations in the country. To improve the safety culture of the manual logging industry throughout Washington State, private land owners, the Washington Contract Loggers Association, logging companies, the Washington Department of Natural Resources, and the Washington Department of Labor & Industries (L&I) partnered to create the Washington State Logger Safety Initiative (LSI). Specifically, LSI aims to promote workplace safety, decrease the occurrence and severity of work-related injuries, improve the accuracy of reporting, and reduce workers' compensation costs. To accomplish this, LSI established standards for worker training, performance, and supervision, implemented processes for certifying company safety programs and auditing company records. Employer participation in LSI is voluntary. Enrollment began in 2014 and continues through today.

LSI requires participating employers to undergo an initial consultation with the L&I Division of Occupational Safety and Health (DOSH) before an employer can progress to higher tiers within the program. During the consultation, DOSH evaluates each cutter and logging side to document existing hazards and complete a Safety and Health Program Assessment (also known as L&I's Form 25). Employers undergo consultations annually to maintain enrollment in the LSI program. Here we present findings from consultations conducted for initial entry into the LSI program.

METHODS

We summarized scores from the Safety and Health Program Assessments (SHPA) survey, and the number and type of hazards identified at the initial consultation. We compared traumatic injury claim rates (accepted claims) two years before and two years after each LSI employer's initial consultation. We evaluated SHPA survey scores, hazards, and injury rates by employer characteristics including geographic region, full time equivalents (FTE) in manual logging, length of time in business, length of time employing manual loggers, and average number of quarters employees worked for the employer (workers' average length of employment with the employer).

A workers' compensation account denoted an employer. Manual logging work hours and traumatic injury claims were identified from the Washington state funded workers' compensation data using the Washington Workers' Compensation risk classification system (codes 5001-03, 5551-03, 5552-03, 5553-03). Hours were expressed as FTE using the conversion factor 1 FTE = 2000 hours. We defined injuries as accepted claims with an injury date within two years of the employer's initial LSI consultations that were classified as traumatic injuries based on the Occupational Injury and Illness Classification System (v1.01), coded from the incident description on the claim's initial Report of Industrial Injury or Occupational Disease. Accepted claims for traumatic injuries were selected as the injury outcome because they were considered the most likely to be immediately impacted by the LSI program. Non-traumatic injuries and illnesses generally present after a longer period of work exposure and thus, would require a longer intervention period before apparent reductions in incidence.

LSI initial consultations were identified from among all DOSH consultation requests through a combination of key words in the request text and proximity of the consultation request date to the employer's date of entry into the LSI program.

The SHPA survey consisted of 25 items grouped into six sections and was designed to capture the degree to which the worksite met a series of safety and health conditions. DOSH consultants assigned each item a score ranging from zero to three, with lower scores reflecting a greater need for improvement. Not all items were assessed at each consultation. We calculated summary scores for each employer by summing the scores of each item assessed and dividing by the maximum score for those same items. When multiple SHPA tools were completed for a single employer, the lowest score for each item assessed was used for the employer's item score, reflecting a need for improvement on that item. Summary scores are displayed as a percentage. A summary score of 100% reflects a perfect score for all items assessed, and may have been awarded in instances where fewer than 25 items were assessed. Because DOSH phased out use of the SHPA tool during the study period, SHPA scores were not available for all employers.

DOSH consultants refer to specific Washington Administration Codes when identifying workplace hazards, generally under WAC 296-54: Safety Standards—Logging Operations. In consultation with a DOSH consultant, we grouped codes a priori to reflect 16 broad categories of logging hazards, plus an 'Other' category to encompass all other codes.

DOSH consultation and workers compensation data were extracted from L&I databases in March 2018.

RESULTS

DOSH Consultations

Initial consultations were identified for 145 employers; each account underwent between 1 and 6 consultation visits to assess all logging sides. Initial consultation visits were conducted between September 2013 and September 2017; two-thirds were conducted in 2014.

Safety and Health Program Assessment

Of the 105 employers who received Safety and Health Program Assessment (SHPA) scores, most performed well: 10 (9.5%) received a perfect score and 77 (73.3%) needed only minimal improvement on one or more items in the assessment.

The highest item scores were awarded for "Proper workplace housekeeping practices are followed", where 88% of employers received a '3' indicating no improvement needed. The two lowest item scores were in the Hazard Surveys section: "Safety and health inspections of facilities and equipment are performed regularly and all deficiencies are corrected in a timely manner", and "Comprehensive surveys have been conducted of all tasks and processes to identify potential hazards and necessary protective measures". Over two-thirds of employers needed some improvement (either major or minor) for one of

these two items. Only two zeroes (the lowest possible score) were assigned to an item in any of the evaluations. Table 1 presents scores by survey item (tables start on page 7).

Table 2 presents scores by survey section and survey total, and injury rates by section scores. Employers scored highest on the Management and Leadership section. The average score was 92.2% and three out of five employers earned a perfect score of 100% on all items assessed within the section. The Hazard Surveys section had the lowest average score at 81.5%. Total survey scores averaged 86.6% and ranged from 61.3% to 100%. Less than ten percent of employers earned a perfect score for all survey items assessed.

In general, employers with perfect scores on survey sections had lower rates of traumatic injuries in the two years before the initial LSI consultation compared with employers who needed improvement (although differences were not statistically significant at $p < 0.1$). In the two years after the initial LSI consultation, differences in injury rates widened between the perfect and less-than-perfect employers. In the two years after the initial LSI consultation, employers with less-than-perfect total scores had a traumatic injury rate of 31.6 per 100 FTE that was 81% higher than the rate among employers with perfect total scores of 17.4 traumatic injuries per 100 FTE.

Injury rates tended to decrease with higher (i.e., better) SHPA scores (Table 3), with the lowest injury rates observed among employers with perfect SHPA total scores and the highest injury rates observed among employers with the worst SHPA total scores. However, most rates differences by SHPA total score were slight. Injury rates among employers with perfect SHPA scores were the only rates significantly different than rates among other employers.

Higher (i.e., better) total SHPA survey scores were associated with fewer serious hazards identified during the initial consultation ($r_s = -0.60$, $p < 0.0001$), and longer employee tenure ($r_s = 0.21$, $p = 0.03$). Scores were not associated with FTE or number of employer-reported quarters of manual logging work hours. Table 4 presents Spearman correlation coefficients for SHPA total scores and select employer characteristics.

Hazards Identified

Initial LSI consultations identified workplace hazards at 131 of the 145 employers, and serious or imminent hazards at 107 employers. Four or more hazards were identified in over half of the visited employers (range = 0 – 36 hazards), while two or more serious hazards were identified in over half of the employers (range = 0 – 20 serious hazards).

Table 5 presents traumatic injury rates by number of hazards. The highest injury rates, both before and after the initial LSI consultation were estimated for employers with greatest number of hazards, although the differences were not statistically significant.

Table 6 presents the number of employers identified to have one or more hazards by hazard type group. The most common hazards involved logging machines, identified at 37.2% of employers. These included: a safe and adequate means of access and egress to all parts of logging machinery where persons must

go must be provided and maintained in a safe and uncluttered condition (33 employers); and each machine must be equipped with guarding to protect employees from exposed moving elements (22 employers). Logging machine hazards in 72% of employers were considered serious. Hazards involving guy lines and anchors were most often considered serious: guy line hazards in 92% of employers were considered serious, including one hazard considered imminent.

The most common serious hazards involved Chainsaws (29.0% of employers) and Personal Protective Equipment (PPE) (28.3% of employers). Common serious chainsaw hazards included failure: to hold a chain saw with the thumbs and fingers of both hands encircling the handles during operation unless the employer demonstrates that a greater hazard is posed by keeping both hands on the chain saw in a specific situation (28 employers); and to start the chain saw on the ground, log or where otherwise firmly supported – drop starting a chain saw is prohibited (18 employers). Common serious PPE hazards included inadequate head protection (23 employers), and eye and face protection (13 employers).

Traumatic injury rates

Based on multivariable regression tree models, traumatic injury rates two years after the initial LSI consultation were associated with the traumatic injury rate two years before the consultation, FTE, length of time the employer reported manual logging hours, SHPA survey score, and serious hazards involving logging machines (Figure 1).

The lowest injury rates 2 years after the initial consultation were:

- 13.0 claims per 100 FTE, among employers with a low rate of traumatic injuries before the consultation, more than 1.2 manual logging FTE annually, and a high SHPA survey score.

The highest injury rates 2 years after the initial consultation were:

- 60.3 claims per 100 FTE, among employers with the highest rates of traumatic injuries before the consultation.
- 54.4 claims per 100 FTE, among employers with low rates of traumatic injuries before the consultation and less than 1.2 manual logging FTE annually.

DISCUSSION

Logging sites contain substantial workplace hazards in violation of Washington law. Some of the most common hazards are also the most serious. These hazards can be remediated. Intervention efforts should prioritize employers with the greatest number of hazards with the goal of lowering their traumatic injury incidence to rates comparable among employers with fewer hazards.

SHPA survey scores can differentiate safer employers from less safe employers. The employers with a perfect SHPA score had a significantly lower traumatic injury claims rate in the two-year follow-up period. While this result demands additional study, it suggests the possible use of the SHPA assessment in insurance underwriting or other safety incentive programs.

Ideally, we would hope employers could use the SHPA assessment to identify areas of their safety program needing improvement, make changes to their programs, and subsequently experience a reduction in injuries. That does not appear to have happened among LSI employers. Perhaps the SHPA survey and consultation does not sufficiently educate employers on steps they can take to create safer work environments. Perhaps the system – LSI or L&I – fails to motivate employers to improve workplace safety beyond what they already achieve. There may be barriers to workplace safety not identified here and not addressed in the consultations that impede improvement in injury rates. We did not assess SHPA surveys administered during the consultations that occur annually after the initial LSI consultation (due to discontinued use of the form, few would have been conducted). Thus, we were unable to assess whether employers improved their scores over time, and whether injury rates correlated with changes in scores.

In addition to measures collected during the initial LSI consultation, other employer characteristics appear associated with traumatic injury rates. Employers with high traumatic injury rates in the preceding the consultation continued to experience high injury rates in the years following the consultation. Employers with the fewest manual logging FTE also saw high injury rates in the years after the initial consultation, especially among those who had reported manual logging activity for more than three years. Employers with few manual logging FTE may undertake different jobs – with greater risk of injury – than employers with a larger manual logging workforce. High injury rates among employers with few FTE may also simply reflect a small denominator; the injury rate per FTE calculation causes a single injury among a small employer to result in an astronomical injury rate. In other words, perhaps FTE is a poor measure of occupational hazard exposure, and instead, number of trees felled would be a better reflection of risk.

There are several limitations to this study. First, the number of LSI-participating employers is small and the number of manual logging FTE within those employers is small. These factors limit our ability to detect statistically significant differences between comparative groups. Second, participation in LSI is voluntary. Based on a previous analysis, safer employers elected to join LSI, further diminishing differences among LSI employers. Moreover, injuries are considered a “lagging” indicator of safety, reflecting workplace changes that take effect over time. LSI and the initial consultations may have a positive effect on manual logging safety, but detection of any impact might require a time span greater

than the two years of post-LSI data we evaluated. Other measures likely capture a more immediate change in workplace safety and safe practices (such as hazard identification or near miss incidents), however these are not routinely collected by L&I. Finally, although DOSH consultants are trained to administer the SHPA survey, we do not know if there are issues of interrater reliability that would suggest systematic differences by consultant in survey data collection and documentation. Additionally, consultants establish relationships with employers over time (many logging consultants have previous work experience within the manual logging industry), which may impact the scores they give employers and the hazards they document.

CONCLUSION

Even among the employers who joined LSI – a group with low injury rates relative to employers who declined to participate in LSI – there exists a range of safety performance. Although logging hazards were documented in nearly every consultation, no hazard was present at every site, suggesting that employers can control whether logging hazards are present in their work environment. There is room for improved workplace safety in manual logging, which should lead to lower injury rates among the risk class.

Table 1. Employer scores by item for the Safety and Health Program Assessment Form 25. Asterisk (*) indicates items where fewer than 50% of employers received a score of 3.

Survey Section (in bold) Survey Item	Employers assessed	Item score (percent of employers assessed)			
		0=No	1=No, needs major improvement	2=Yes, needs minor improvement	3=Yes
Hazard surveys					
*Comprehensive surveys have been conducted of all tasks and processes to identify potential hazards and necessary protective measures.	99%	0.0	11.5	56.7	31.7
*Safety and health inspections of facilities and equipment are performed regularly and all deficiencies are corrected in a timely manner.	99%	0.0	6.7	64.4	28.8
A hazard reporting and tracking system exists.	96%	0.0	5.0	39.6	55.4
Hazard surveys are reviewed and updated whenever a change in facilities, equipment, materials, or processes occurs.	83%	1.1	0.0	29.9	69.0
A process is in place for investigating accidents and near misses to determine root causes.	97%	0.0	2.0	29.4	68.6
Hazard prevention and control					
*All necessary safety and health policies, rules, and safe work practice procedures are in place.	100%	1.0	4.8	53.3	41.0
*Standard engineering controls, administrative controls, and preventative maintenance procedures are in place and appropriate for types of industry standards.	92%	0.0	1.0	55.7	43.3
Personal Protective Equipment is provided, used, and maintained.	99%	0.0	2.9	41.3	55.8
Proper workplace housekeeping practices are followed.	95%	0.0	1.0	11.0	88.0
The organization is prepared for emergency situations including ensuring appropriate medical care for injured workers.	100%	0.0	1.0	24.8	74.3
Administration and supervision					
Goals and objectives for the safety and health program have been established and communicated to all employees.	92%	0.0	3.1	43.3	53.6
Safety and health roles and responsibilities are outlined and assigned to specific personnel.	89%	0.0	1.1	31.2	67.7

Individuals with assigned safety and health responsibilities have the authority and resources to perform their duties.	87%	0.0	1.1	24.2	74.7
Safety and health rules and policies are enforced, and unsafe behavior results in corrective action.	90%	0.0	4.3	31.9	63.8
A review of the organizations and safety and health programs is conducted at least annually and drives appropriate program changes.	83%	0.0	3.4	31.0	65.5
Safety and health training					
Individuals with assigned safety and health responsibilities have the necessary knowledge, skills, and information to perform their duties.	91%	0.0	1.0	35.4	63.5
All employees receive appropriate safety and health training on an on-going basis including a safety orientation for all new hires.	99%	0.0	1.9	35.6	62.5
Supervisors and managers receive appropriate safety and health training and understand their roles in helping to manage the organization's safety and health program.	90%	0.0	0.0	27.7	72.3
Management and leadership					
Upper management is involved in the planning and evaluation of safety and health policies and performance.	97%	0.0	0.0	14.7	85.3
Management policy establishes clear priority for safety and health.	98%	0.0	1.9	22.3	75.7
Managers support safety and health policies including allocating necessary resources.	96%	0.0	0.0	26.7	73.3
Managers personally follow all safety and health rules.	92%	0.0	1.0	25.8	73.2
Employee participation					
Employees participate in hazard prevention and control activities.	90%	0.0	2.1	41.1	56.8
*Employees take personal responsibility for correcting unsafe conditions and work practices.	96%	0.0	4.0	47.5	48.5
Employees are involved in the planning and evaluation of safety and health policies and performance.	74%	0.0	0.0	34.6	65.4

Table 2. Safety and Health Program Assessment section scores (displayed as percentages) and traumatic injury rates, n=105 accounts.

Survey section	Mean score	Std Dev	Perfect score n (%)	Injury rate 2 yrs before			Injury rate 2 yrs after		
				Needs improvement	Perfect score	Rate ratio ^a (95% CI)	Needs improvement	Perfect score	Rate ratio ^a (95% CI)
Management Leadership	92.2	11.4	63 (60.0)	35.0	32.6	1.07 (0.77, 1.50)	33.1	28.3	1.17 (0.85, 1.61)
Safety and Health Training	88.0	14.9	54 (51.4)	36.8	30.9	1.19 (0.85, 1.67)	34.1	26.5	1.29 (0.93, 1.79)
Administration and Supervision	87.6	13.5	40 (38.5)	35.2	30.6	1.15 (0.77, 1.72)	34.5	22.7	1.51 (1.01, 2.26)
Employee Participation	84.6	14.9	42 (40.8)	33.9	33.0	1.03 (0.71, 1.49)	30.5	30.2	1.01 (0.71, 1.43)
Hazard Prevention and Control	86.1	10.0	20 (19.0)	32.5	38.7	0.84 (0.50, 1.41)	30.8	27.7	1.11 (0.73, 1.69)
Hazard Surveys	81.5	14.1	22 (21.0)	33.8	32.9	1.03 (0.67, 1.58)	32.1	21.8	1.47 (0.92, 2.36)
Survey Total	86.6	10.7	10 (9.5)	34.4	26.1	1.32 (0.76, 2.28)	31.6	17.4	1.81 (1.16, 2.82)

^aInjury rate among accounts that need improvement/Injury rate among accounts with perfect score. Bold font indicates significant at p<0.05. No additional rate ratios were significant at p<0.1.

Table 3. Rates of traumatic injuries (claims per 100 FTE) by Safety and Health Program Assessment total scores, n=105 accounts. Years before and after consultation were combined because rates were not observed to differ by time period.

SHPA total score	Number of accounts	Traumatic injuries	Injury rate (95% CI)
<70%	7	45	36.5 (28.5, 46.7)
70-79%	21	104	33.0 (25.5, 42.8)
80-89%	29	119	34.3 (28.9, 40.7)
90-99%	38	153	31.0 (23.1, 41.6)
100%	10	28	21.8 (14.3, 33.2)

Table 4. Correlation between Safety and Health Program Assessment total score and covariates (Spearman correlation coefficients and p-values).

	Survey total score	Number of serious hazards identified	FTE	Number of quarters ML hours reported	Average employee tenure
Survey total score	1	-0.60445 <.0001	-0.06233 0.5276	0.10316 0.295	0.21386 0.0285
Number of serious hazards identified	-0.60445 <.0001	1	0.34768 0.0003	-0.00426 0.9656	-0.13717 0.1629
FTE	-0.06233 0.5276	0.34768 0.0003	1	0.4855 <.0001	0.35138 0.0002
Quarters of manual logging hours reported by employer	0.10316 0.295	-0.00426 0.9656	0.4855 <.0001	1	0.8271 <.0001
Average employee tenure	0.21386 0.0285	-0.13717 0.1629	0.35138 0.0002	0.8271 <.0001	1

Table 5. Traumatic injury rates (claims per 100 FTE) by number of hazards identified (grouped by quartiles) during initial LSI consultation.

	Number of employers	Rate 2 years before consultation	Rate 2 years after consultation
Number of hazards			
Q1: 0-2 hazards	40 (27.6)	32.9 (23.4, 46.2)	29.4 (20.6, 42.1)
Q2: 3-4 hazards	35 (24.1)	32.6 (20.6, 51.6)	33.5 (24.4, 46.1)
Q3: 5-8 hazards	39 (26.9)	31.8 (21.8, 46.3)	24.1 (16.3, 35.7)
Q4: 9+ hazards	31 (21.4)	35.5 (29.0, 43.4)	35.4 (29.7, 42.0)
Number of serious hazards			
Q1: 0 hazards	38 (26.2)	30.7 (21.5, 43.9)	28.4 (19.9, 40.7)
Q2: 1-2 hazards	42 (29.0)	33.6 (21.3, 52.8)	32.1 (22.5, 45.9)
Q3: 3-4 hazards	31 (21.4)	30.0 (22.4, 40.2)	26.6 (19.0, 37.3)
Q4: 5+ hazards	34 (23.4)	37.6 (30.1, 46.9)	35.4 (29.7, 42.2)

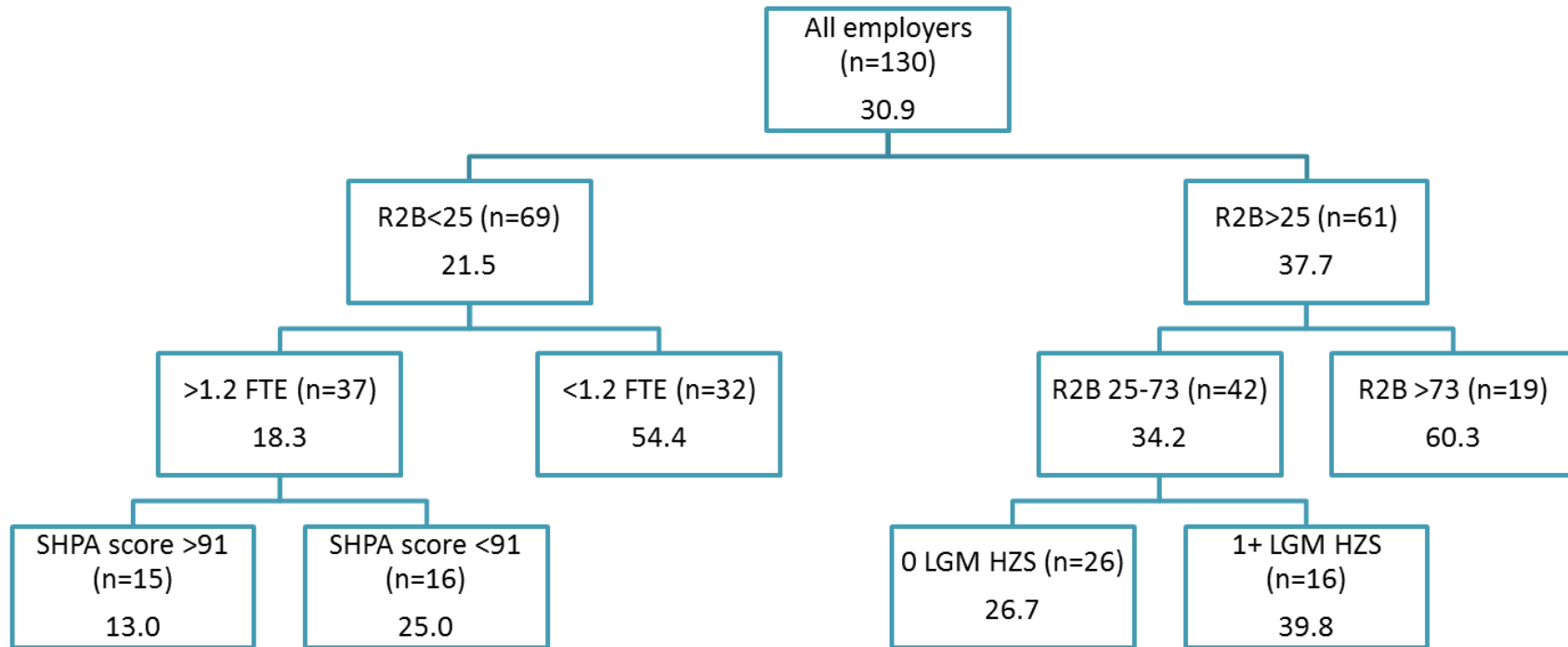
Claims per 100 FTE

Table 6. Number of employers with workplace hazards at initial LSI consultation by hazard type and severity (percent of employers with initial consultation, n=145).

Hazard group	Employers with hazard in group	Employers with serious hazard ^a	Percent of hazards considered serious
Logging machines	54 (37.2)	39 (26.9)	72%
APP, first aid	52 (35.9)	8 (5.5)	15%
Chainsaws	51 (35.2)	42 (29.0)	82%
PPE	48 (33.1)	41 (28.3)	85%
Signals, radios	39 (26.9)	4 (2.8)	10%
Hazard communication	35 (24.1)	1 (0.7)	3%
Motor vehicles	35 (24.1)	18 (12.4)	51%
Lockout/tagout	30 (20.7)	7 (4.8)	23%
Yarding	28 (19.3)	9 (6.2)	32%
Misc hand tools	27 (18.6)	15 (10.3)	56%
Rigging	26 (17.9)	17 (11.7)	65%
Guy lines, anchors	24 (16.6)	22 (15.2)	92%
Falling and bucking	23 (15.9)	20 (13.8)	87%
Wire rope	21 (14.5)	19 (13.1)	90%
Employer	13 (9.0)	7 (4.8)	54%
Log trucks	12 (8.3)	9 (6.2)	75%
Other	28 (19.3)	23 (15.9)	82%

^a Includes one Guy lines, anchors hazard classified as imminent.

Figure 1. Regression tree results for traumatic injury rates 2 years after initial LSI consultation. Data presented in each box are: splitting characteristic, number of employees, and traumatic injury rates 2 years after initial LSI consultation (claims per 100 FTE).



R2B = Rate of traumatic injuries 2 years before initial LSI consultation (claims per 100 FTE)

FTE = Annual average manual logging FTE

LGM HZS = Serious hazards involving Logging Machines



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RELATED TO [Work-related Injuries Among Health Care Workers\(/work-related-injuries-among-health-care-workers\)](#)

Needlesticks and other sharps injuries among healthcare workers

Information about sharps injuries and prevention of work-related injuries among healthcare professionals

Overview

Injuries caused by needles and other sharp devices (called “sharps”) are a significant public health concern. Sharps injuries can expose health care workers to harmful bloodborne pathogens. The U.S. Centers for Disease Control and Prevention estimate that nationwide between 600,000 and 800,000 injuries from contaminated sharps occur in health care settings each year.

Both Massachusetts and federal law require Massachusetts hospitals to:

- Use sharps devices with engineered safety features (safety devices)
- Develop and implement plans to reduce worker exposures to sharps
- Maintain logs of sharps injuries sustained by workers

Feedb

Acute and chronic care hospitals licensed by the Massachusetts Department of Public Health (MDPH) are also required to report information from these sharps logs to MDPH on an annual basis.

[Learn how prepare the Annual Summary of Sharps](#)

[Injuries\(/guides/occupational-disease-and-injury-reporting#reporting-guidelines\).](#)

Sharps Injury Surveillance and Prevention

The Occupational Health Surveillance Program (OHSP) maintains the Massachusetts Sharps Injury Surveillance System and uses the data provided by hospitals to produce an annual state report on sharps injuries among Massachusetts hospital workers.

The surveillance system is intended to provide information regarding the magnitude and trends of sharps injuries in the state and to identify devices, procedures and departments most frequently associated with sharps injuries that should be considered priorities for intervention. OHSP also works with hospitals and health care workers to facilitate exchange of information about successful sharps injury prevention programs and practices.

The [Sustainable Hospitals Project](http://www.sustainablehospitals.org/) (<http://www.sustainablehospitals.org/>) at the University of Massachusetts Lowell provides technical assistance to OHSP on issues regarding sharps injury prevention technology.

[View Sharps Injuries among Hospital Workers in Massachusetts](#)

[Reports\(/lists/needlesticks-and-other-sharps-injuries-data-and-statistics\).](#)

Additional Resources

[NIOSH Alert -Preventing Needlestick Injuries in Health Care Settings](#)

(<http://www.cdc.gov/niosh/docs/2000-108>)

[OSHA Needlesticks Page](http://www.osha.gov/SLTC/bloodbornepathogens/index.html) (<http://www.osha.gov/SLTC/bloodbornepathogens/index.html>)

State-by-State Provisions of State Needle Safety Legislation, May 2001

(<http://www.cdc.gov/niosh/topics/bbp/ndl-law.html>)

Training for Development of Innovative Control Technologies Project

(<http://www.tdict.org/>)

Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV, Recommendations for Post-Exposure Prophylaxis (<https://stacks.cdc.gov/view/cdc/20711>)

International Safety Center (<http://internationalsafetycenter.org/>)

See all 8 (</service-details/needlesticks-and-other-sharps-injuries-among-healthcare-workers/resources>)



U.S. Department of Labor

Mine Safety and Health Administration

Protecting Miners' Safety and Health Since 1978



ELECTRICAL SAFETY ALERT

Several electrical incidents have recently been reported at underground coal mines that resulted in miners being transported to the hospital. One incident occurred when a miner received flash burns to his eyes when he was working near a 480 VAC scoop charger circuit breaker. Another miner was shocked while repositioning a 575 VAC permissible water pump when he grabbed the pump cable. A mine foreman was shocked when he attempted to pull a roof bolter trailing cable out from under a rock fall. A fourth miner was shocked when an electrician contacted an energized component in the control panel of a 995 VAC continuous mining machine.



Best Practices

- Do not perform any electrical work until the circuit is deenergized, locked, and tagged out. **REMEMBER**, electrical work is installing or maintaining electrical equipment or conductors.
- Be knowledgeable of the hazards of electricity and **NEVER** touch any ungrounded electrical component until you are sure it is deenergized.
- Identify all hazards then develop and follow a safe plan to perform work or troubleshoot to ensure the safety of all miners. Always deenergize equipment except when necessary for trouble shooting or testing.
- Always handle deenergized cable instead of energized cable, or wear properly rated and well maintained electrical gloves when handling energized cables.
- Protect electrical cables from damage by mobile equipment and falling roof. When cable damage is suspected, **IMMEDIATELY** notify a qualified electrician so a potentially dangerous condition can be corrected.
- Install sensitive ground fault relays with instantaneous trip setting of 125 mA or less on all face equipment. Use trailing cables with a grounded metallic shield.
- Wear properly rated PPE to protect against Electrical Shock, Arc Blast, and Arc Flash by following NFPA 70E Standard for Electrical Safety in the Workplace.

U.S. Department of Labor
Mine Safety and Health Administration
Protecting Miners' Safety and Health Since 1978

SAFETY ALERT

During the months of July and August, 2016, ten roof falls occurred on working sections after the roof was bolted. Such roof falls inby the loading point are particularly dangerous because they occur where most miners work. Fortunately, no injuries have been associated with these ten falls. These types of accidents can be reduced, if not eliminated when miners use the following Best Practices as a guide.



BEST PRACTICES

- Know and follow the approved roof control plan.
- Make frequent examinations, and be alert to changing conditions which may affect roof or rib conditions.
- Install additional roof and/or rib support when adverse conditions are encountered or anticipated.
- Use supplemental support for immediate roof control such as screen, steel straps, header boards or larger roof bolt plates.
- When retreat mining, withdraw equipment immediately if the roof becomes unstable.
- Where appropriate, use extra support in the vicinity of the last row of bolts to prevent a roof fall that initiates in the unbolted cut from extending outby.
- Use test holes to check for cracks and other hazards above the roof bolts.
- Tell mine management and other miners about unusual roof or rib conditions.
- Never travel under unsupported roof.

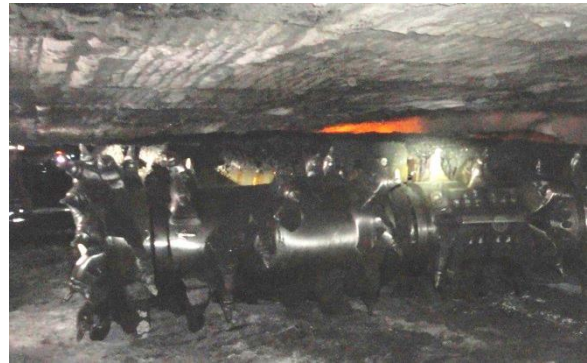


REMEMBER:
Safety depends upon what you
DO or DON'T DO.

SAFETY ALERT

Proximity Detection System Installations, Maintenance and Checks

On February 11, 2016 a scoop equipped with a proximity detection system (PDS) was tramming through a line curtain toward a miner located on the opposite side. The miner was wearing a miner wearable component (MWC) and was on his knees, in the process of “spadding down” the curtain. The scoop bucket was in the raised position above the miner, who was able to roll out of the way without being contacted. The scoop operator heard the miner and stopped the scoop.



The miner received a broken leg and was immediately transported to the hospital for treatment.

On May 19, 2016 MSHA traveled to another mine where a similar PDS was installed on a continuous mining machine and observed that the PDS was operating erratically. Shutdown zones were found to be set too close to the machine. The machine mounted components would only indicate a warning zone infraction when the MWC was properly indicating that it was within the shutdown zone. This allowed the machine to move.

In both of these instances MSHA found that the warning and shutdown zones were not set properly and that pre-operational checks of the PDS were not being conducted in the manner recommended by the manufacturer.

Best Practices

- **Ensure that Proximity Detection Systems are installed and maintained in proper operating condition by a trained person.**
- **Conduct pre-operational checks by following procedures provided by Proximity Detection System manufacturers.**
- **Proximity Detection System software is updated periodically by manufacturers. Contact Proximity Detection System manufacturers to ensure that these updates are installed regularly.**
- **Verify that the warning and shut down zones are set as recommended by the Proximity Detection System manufacturer and according to company policy to stop the machine before a miner is contacted.**
- **Ensure that both the Miner Wearable Component and the Machine Mounted Components indicate corresponding warning and shut down zone status.**
- **Reference the video on General Inspection Procedures for Proximity Detection Devices - <https://www.msha.gov/news-media/special-initiatives/2015/09/27/final-rule-proximity-detection-systems-continuous-mining>**
- **If technical issues arise contact the Proximity Detection System manufacturer and your local MSHA District Office.**



Management Leadership



Worker Participation



Find and Fix Hazards



Recommended Practices for **Safety** and **Health** Programs



Occupational Safety
and Health Administration

www.osha.gov/shpguidelines

OSHA 3885 October 2016
AB 2334 Comments Page No. 000106

DISCLAIMER

These practices for safety and health programs are recommendations only. Employers are not required to have a safety and health program that complies with them and will not be cited for failing to have a safety and health program that complies with this document.

These recommended practices apply to employers, except in the construction industry, for whom there are separate *Recommended Practices for Safety and Health Programs for the Construction Industry*.

FOREWORD

Establishing a safety and health program in your workplace is one of the most effective ways of protecting your most valuable asset: your workers. Losing workers to injury or illness, even for a short time, can cause significant disruption and cost—to you as well as the workers and their families. It can also damage workplace morale, productivity, turnover, and reputation.

Safety and health programs foster a proactive approach to “finding and fixing” workplace hazards before they can cause injury or illness. Rather than reacting to an incident, management and workers collaborate to identify and solve issues before they occur. This collaboration builds trust, enhances communication, and often leads to other business improvements. Employers who have implemented safety and health programs, including many who are in OSHA’s Voluntary Protection Programs (VPP) or the Safety and Health Achievement Recognition Program (SHARP) for small and medium-sized businesses, have also found that managing for safety results in higher-quality product or output and higher profits.

Thousands of responsible employers have used OSHA’s 1989 Safety and Health Program Management Guidelines as a blueprint for setting up an effective safety and health program.¹

Much has changed, however, since those guidelines were published:

- The nature of work is evolving as the economy continues to shift from a manufacturing to a service base, and from a fixed to an often mobile workforce.

Resources and Tools to Support Implementation of These Recommended Practices

OSHA has created a dedicated Web page to support the implementation of these recommended practices at www.osha.gov/shpguidelines. The page includes the following:

- **Additional resources.** Articles and information sources related to each core element of the recommended practices, plus other topics discussed in the recommended practices.
- **Tools.** Downloadable templates, worksheets, and reference materials you can use as you develop your own safety and health program.

Please visit the [recommended practices Web page](#) and explore the resources available. OSHA will update the Web page and add resources and tools as they become available.

- Automation of work activities means that technology, computers, and robotics are being integrated into our workplaces, often introducing new and different hazards.
- Greater diversity in the workplace means that people from different backgrounds and cultures are working alongside each other, often speaking different languages.

¹ 54 FR 3904-16, January 26, 1989.

- An aging workforce and the rise of sedentary work and lifestyle means that some workers are at higher risk for work-related musculoskeletal disorders.
- There is greater recognition that workers in industries that some think of as safe (such as healthcare, lodging, retail, and transportation) face significant hazards.
- Increased temporary and contract employment, and the rise of the “gig economy” mean that traditional relationships between workers and employers are shifting, and changes in safety programs and policies will be required to ensure the safety of all workers at worksites characterized by these newer and more fluid relationships.

These new recommended practices reflect these changes. They also reflect what we have learned from best-in-class programs and what makes them effective. In particular, these recommended practices place greater emphasis on involving workers, and include a more robust program evaluation element to help drive continuous improvement. The recommended practices also stress the need for communication and coordination on worksites involving more than one employer.

In addition, the new recommended practices build on successful approaches and practices that have evolved under OSHA programs such VPP and SHARP. They also align with national and international consensus standards.²

² A comparison of these recommended practices, the 1989 guidelines, OSHA voluntary programs, and other consensus standards is available on the [Recommended Practices for Safety and Health Programs website](#).

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INTRODUCTION

THESE RECOMMENDED PRACTICES provide responsible employers, workers, and worker representatives³ with a sound, flexible framework for addressing safety and health issues in diverse workplaces. They may be used in any workplace, but will be particularly helpful in small and medium-sized workplaces. They can be applied equally well in traditional, fixed manufacturing workplaces and in the

service sector, healthcare, retail, and even mobile or office-based work environments. They also include information specifically aimed at temporary worker and multiemployer work situations. Separate recommended practices are available for the construction industry.

³ Worker participation is vital to the success of the program. In several places in this document, OSHA refers not just to workers but also to their representatives, such as labor unions or religious or community groups.

The recommended practices emphasize a proactive approach to managing workplace safety and health. Traditional approaches are often reactive—that is, actions are taken only *after* a worker is injured or becomes sick, a new standard or regulation is published, or an outside inspection finds a problem that must be corrected. Finding and fixing hazards *before* they cause injury or illness is a far more effective approach. Doing so avoids the direct and indirect costs of worker injuries and illnesses, and promotes a positive work environment.

The concept of continuous improvement is central to the recommended practices. As with any journey, the first step is often the most challenging. The idea is to begin with a basic program and grow from there. By initially focusing on achieving modest goals, monitoring performance, and evaluating outcomes, you can help your workplace progress, over time, along the path to higher levels of safety and health.

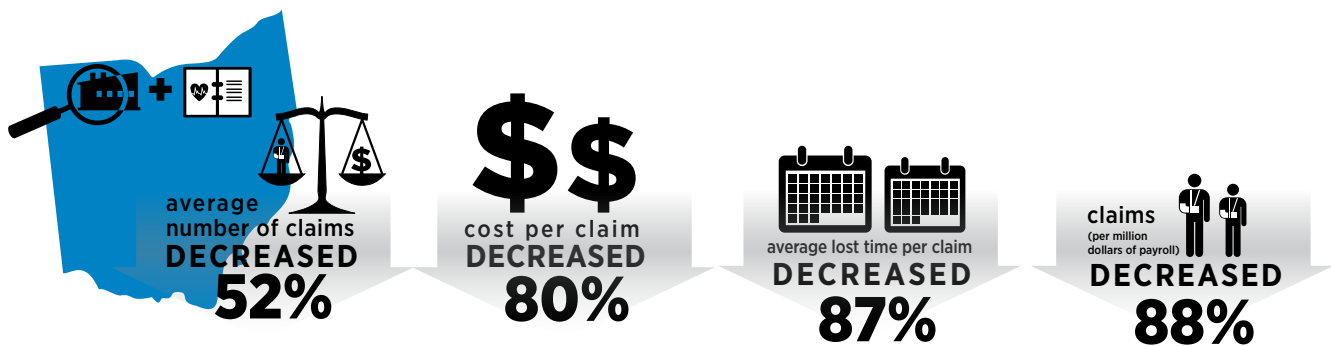
THE BENEFITS OF IMPLEMENTING THESE RECOMMENDED PRACTICES

Responsible employers know that the main goal of a safety and health program is to prevent workplace injuries, illnesses, and deaths, as well as the suffering and financial hardship these events can cause for workers, their families, and their employers.

Employers may find that implementing these recommended practices brings other benefits as well. The renewed or enhanced commitment to safety and health and the cooperative atmosphere between employers and workers have been linked to:

- Improvements in product, process, and service quality.
- Better workplace morale.
- Improved employee recruiting and retention.
- A more favorable image and reputation (among customers, suppliers, and the community).

A study of small employers in Ohio found that workers’ compensation claims fell dramatically after working with OSHA’s SHARP program to adopt programs similar to those described in these recommended practices.



Source: Ohio Bureau of Workers’ Compensation (2011), Ohio 21(d) SHARP Program Performance Assessment.

IMPLEMENTING a safety & health program



can help employers avoid the



TIME LOST due to work stoppages and investigations, **training and other costs associated with REPLACING INJURED WORKERS** and **LOSS OR DAMAGE to material, machinery and property.**

These **INDIRECT COSTS** have been estimated to be at least **2.7** times the **DIRECT COSTS**

Source: Leigh, J.P. (2011), *Economic Burden of Occupational Injury and Illness in the United States*. *Milbank Quarterly*, 89:728-772.⁴

HOW TO USE THE RECOMMENDED PRACTICES

Each section of the recommended practices describes a core program element (see page 7), followed by several action items. Each action item is an example of steps that employers and workers can take to establish, implement, maintain, and improve your safety and health program. You can use the self-evaluation tool found on the [recommended practices Web page](#) to track your progress and assess how fully you

have implemented (or will implement) each action item.

Seven interrelated elements

The seven core elements are interrelated and are best viewed as part of an integrated system. Actions taken under one core element can (and likely will) affect actions needed under one or more other elements. For example, workers must be trained in reporting procedures and hazard identification techniques in order to be effective

⁴ The 2.7 multiplier for indirect costs includes some social costs, such as workers' compensation costs not covered by insurance.

10 EASY THINGS TO GET YOUR PROGRAM STARTED

If these recommended practices appear challenging, here are some simple steps you can take to get started. Completing these steps will give you a solid base from which to take on some of the more structured actions presented in the recommended practices.

1. SET SAFETY AND HEALTH AS A TOP PRIORITY

Always set safety and health as the top priority. Tell your workers that making sure they finish the day and go home safely is the way you do business. Assure them that you will work with them to find and fix any hazards that could injure them or make them sick.

2. LEAD BY EXAMPLE

Practice safe behaviors yourself and make safety part of your daily conversations with workers.

3. IMPLEMENT A REPORTING SYSTEM

Develop and communicate a simple procedure for workers to report any injuries, illnesses, incidents (including near misses/close calls), hazards, or safety and health concerns without fear of retaliation. Include an option for reporting hazards or concerns anonymously.

4. PROVIDE TRAINING

Train workers on how to identify and control hazards using, for example, [OSHA's Hazard Identification Training Tool](#).

5. CONDUCT INSPECTIONS

Inspect the workplace with workers and ask them to identify any activity, piece of equipment, or material that concerns them. Use checklists, such as those included in [OSHA's Small Business Handbook](#), to help identify problems.

6. COLLECT HAZARD CONTROL IDEAS

Ask workers for ideas on improvements and follow up on their suggestions. Provide them time during work hours, if necessary, to research solutions.

7. IMPLEMENT HAZARD CONTROLS

Assign workers the task of choosing, implementing, and evaluating the solutions they come up with.

8. ADDRESS EMERGENCIES

Identify foreseeable emergency scenarios and develop instructions on what to do in each case. Meet to discuss these procedures and post them in a visible location in the workplace.

9. SEEK INPUT ON WORKPLACE CHANGES

Before making significant changes to the workplace, work organization, equipment, or materials, consult with workers to identify potential safety or health issues.

10. MAKE IMPROVEMENTS

Set aside a regular time to discuss safety and health issues, with the goal of identifying ways to improve the program.

participants. Thus, the “Education and Training” core element supports the “Worker Participation” core element. Similarly, setting goals (as described under “Management Leadership”) will be more effective if you routinely evaluate your progress in meeting those goals (see “Program Evaluation and Improvement”). Progress in each core element is important to achieve maximum benefit from the program.

One size does not fit all

While the action items under each core element are specific, they are not prescriptive. The process described in these recommended practices can, and should, be tailored to the needs of each workplace. Likewise, your safety and health program can and should evolve. Experimentation, evaluation, and program modification are all part of the process. You may also experience setbacks from time to time. What is important is that you learn from setbacks, remain committed to finding out what works best for you, and continue to try different approaches.

Injuries and illnesses occur in all types of workplace settings, from manufacturing sites, to hospitals and healthcare facilities, to offices and service industries.⁵ Workers can even be injured or become ill outside physical facilities, such as when driving a vehicle as part of a sales or service job. The preventive approaches described in these recommended practices work equally well across all sectors of the economy; for all different kinds of hazards; in both mobile and fixed work environments; and for small, medium-sized, and large organizations. Small employers may find that they can best accomplish the actions outlined in these recommended practices using informal communications and procedures. Larger employers, who have more complex work processes and hazards, may require a more formal and detailed program. They may also wish

to integrate their safety and health program with other programs that they are using to manage production, quality control, and environmental protection or sustainability.

The importance of worker participation

Throughout these recommended practices, OSHA emphasizes the importance of worker participation in the safety and health program. For a program to succeed, workers (and, if applicable, their representatives) must participate in developing and implementing every element of the safety and health program. This emphasis on worker participation is consistent with the OSH Act, OSHA standards, and OSHA enforcement policies and procedures, which recognize the rights and roles of workers and their representatives in matters of workplace safety and health. Several action items described in these recommended practices rely on perspectives, expertise, and input that can come only from workers and their representatives.

When more than one employer is involved

Host employers, contractors, staffing agencies, and their workers should pay particular attention to the “Communication and Coordination for Host Employers, Contractors, and Staffing Agencies” section. This section describes actions that host employers and contractors, subcontractors, and temporary staffing agencies (and their workers) should take to ensure protection of everyone on the worksite.

For tools and resources to help you implement these recommended practices, visit: www.osha.gov/shpguidelines

⁵ Please note: OSHA has developed a separate document of *Recommended Practices for Safety and Health Programs for the Construction Industry*.

CORE ELEMENTS OF THE SAFETY AND HEALTH PROGRAM RECOMMENDED PRACTICES

MANAGEMENT LEADERSHIP

- Top management demonstrates its commitment to continuous improvement in safety and health, communicates that commitment to workers, and sets program expectations and responsibilities.
- Managers at all levels make safety and health a core organizational value, establish safety and health goals and objectives, provide adequate resources and support for the program, and set a good example.

WORKER PARTICIPATION

- Workers and their representatives are involved in all aspects of the program—including setting goals, identifying and reporting hazards, investigating incidents, and tracking progress.
- All workers, including contractors and temporary workers, understand their roles and responsibilities under the program and what they need to do to effectively carry them out.
- Workers are encouraged and have means to communicate openly with management and to report safety and health concerns without fear of retaliation.
- Any potential barriers or obstacles to worker participation in the program (for example, language, lack of information, or disincentives) are removed or addressed.

HAZARD IDENTIFICATION & ASSESSMENT

- Procedures are put in place to continually identify workplace hazards and evaluate risks.
- Safety and health hazards from routine, nonroutine, and emergency situations are identified and assessed.
- An initial assessment of existing hazards, exposures, and control measures is followed by periodic inspections and reassessments, to identify new hazards.
- Any incidents are investigated with the goal of identifying the root causes.
- Identified hazards are prioritized for control.

HAZARD PREVENTION & CONTROL

- Employers and workers cooperate to identify and select methods for eliminating, preventing, or controlling workplace hazards.
- Controls are selected according to a hierarchy that uses engineering solutions first, followed by safe work practices, administrative controls, and finally personal protective equipment (PPE).
- A plan is developed to ensure that controls are implemented, interim protection is provided, progress is tracked, and the effectiveness of controls is verified.

EDUCATION & TRAINING

- All workers are trained to understand how the program works and how to carry out the responsibilities assigned to them under the program.
- Employers, managers, and supervisors receive training on safety concepts and their responsibility for protecting workers' rights and responding to workers' reports and concerns.
- All workers are trained to recognize workplace hazards and to understand the control measures that have been implemented.

PROGRAM EVALUATION & IMPROVEMENT

- Control measures are periodically evaluated for effectiveness.
- Processes are established to monitor program performance, verify program implementation, and identify program shortcomings and opportunities for improvement.
- Necessary actions are taken to improve the program and overall safety and health performance.

COMMUNICATION AND COORDINATION FOR HOST EMPLOYERS, CONTRACTORS, AND STAFFING AGENCIES

- Host employers, contractors, and staffing agencies commit to providing the same level of safety and health protection to all employees.
- Host employers, contractors, and staffing agencies communicate the hazards present at the worksite and the hazards that work of contract workers may create on site.
- Host employers establish specifications and qualifications for contractors and staffing agencies.
- Before beginning work, host employers, contractors, and staffing agencies coordinate on work planning and scheduling to identify and resolve any conflicts that could affect safety or health.

FOR MORE INFORMATION

For more information about these recommended practices, tools to help you implement them, and related topics, see the [recommended practices Web page](#). This page includes links to many tools and resources developed by OSHA and others that can help employers and workers implement these recommended practices. OSHA will continue to update and add to this resource list.

OSHA's On-site Consultation Program offers free and confidential occupational safety and health services to small and medium-sized businesses in all states and several territories across the country, with priority given to high-hazard worksites.

On-site Consultation Program services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and help them establish and improve their safety and health programs.

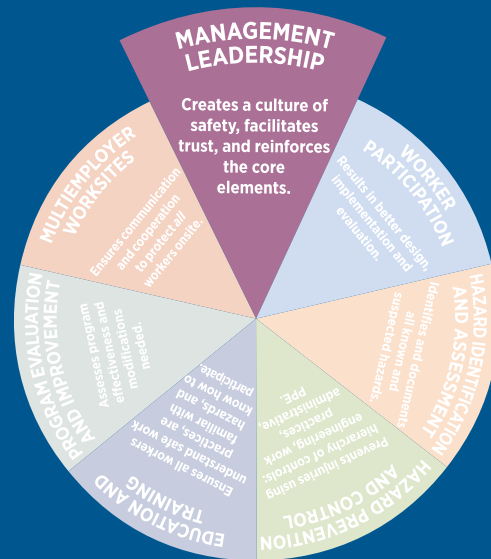
For free assistance, including help implementing your program, visit: www.osha.gov/dcsp/smallbusiness or call 1-800-321-6742 (OSHA)



MANAGEMENT LEADERSHIP

MANAGEMENT PROVIDES the leadership, vision, and resources needed to implement an effective safety and health program. Management leadership means that business owners, managers, and supervisors:

- Make worker safety and health a core organizational value.
- Are fully committed to eliminating hazards, protecting workers, and continuously improving workplace safety and health.
- Provide sufficient resources to implement and maintain the safety and health program.
- Visibly demonstrate and communicate their safety and health commitment to workers and others.
- Set an example through their own actions.



Action item 1: Communicate your commitment to a safety and health program

A clear, written policy helps you communicate that safety and health is a primary organizational value—as important as productivity, profitability, product or service quality, and customer satisfaction.

How to accomplish it

Establish a written policy signed by top management describing the organization’s commitment to safety and health, and pledging to establish and maintain a safety and health program for all workers.

- Communicate the policy to all workers and, at appropriate times and places, to relevant parties, including:
 - Contractors, subcontractors, staffing agencies, and temporary workers at your worksite(s)
 - Suppliers and vendors
 - Other businesses in a multi-tenant building
 - Visitors
 - Customers
- Reinforce management commitment by considering safety and health in all business decisions, including contractor and vendor selection, purchasing, and facility design and modification.
- Be visible in operations and set an example by following the same safety procedures you expect workers to follow. Begin work meetings with a discussion or review of safety and health indicators and any outstanding safety items on a “to do” list.

Action item 2: Define program goals

By establishing specific goals and objectives, management sets expectations for managers, supervisors, and workers, and for the program overall. The goals and objectives should focus on specific actions that will improve workplace safety and health.

How to accomplish it

- Establish realistic, measurable goals for improving safety and health. Goals emphasizing injury and illness prevention should be included, rather than focusing on injury and illness rates.
- Develop plans to achieve the goals by assigning tasks and responsibilities to particular people, setting timeframes, and determining resource needs.

Action item 3: Allocate resources

Management provides the resources needed to implement the safety and health program, pursue program goals, and address program shortcomings when they are identified.

How to accomplish it

- Estimate the resources needed to establish and implement the program.
- Allow time in workers' schedules for them to fully participate in the program.
- Integrate safety and health into planning and budgeting processes, and align budgets with program needs.
- Provide and direct resources to operate and maintain the program, meet safety and health commitments, and pursue program goals.

Note: Resource needs will vary depending on your organization's size, complexity, hazard types, and program maturity and development. Resource needs may include capital equipment and supplies, staff time, training, access to information and tools (e.g., vendor information, Safety Data Sheets, injury/illness data, checklists, online databases) and access to safety and health experts, including OSHA's free and confidential On-site Consultation Program (see "For More Information" in the introduction to these recommended practices).

Action item 4: Expect performance

Management leads the program effort by establishing roles and responsibilities and providing an open, positive environment that encourages communication about safety and health.

How to accomplish it

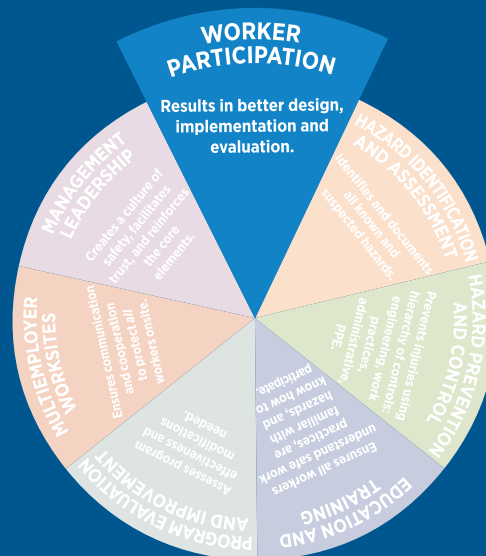
- Identify a frontline person or persons who will lead the safety program effort, make plans, coordinate activities, and track progress. Define and regularly communicate responsibilities and authorities for implementing and maintaining the program, and hold people accountable for performance.
- Provide positive recognition for meeting or exceeding safety and health goals aimed at preventing injury and illness (e.g., reporting close calls/near misses, attending training, conducting inspections).
- Establish ways for management and all workers to communicate freely and often about safety and health issues, without fear of retaliation.

Note: Maintaining a positive and encouraging tone is important. Successful programs reward, rather than discipline, workers who identify problems or concerns, much like successful quality programs. Disciplinary measures should be reserved for situations in which an individual manager or worker is uncooperative or becomes an impediment to progress.

WORKER PARTICIPATION

TO BE EFFECTIVE, any safety and health program needs the meaningful participation of workers and their representatives. Workers have much to gain from a successful program, and the most to lose if the program fails. They also often know the most about potential hazards associated with their jobs. Successful programs tap into this knowledge base.

Worker participation means that workers are involved in establishing, operating, evaluating, and improving the safety and health program. All workers at a worksite should participate, including those employed



by contractors, subcontractors, and temporary staffing agencies (see “Communication and Coordination for Host Employers, Contractors, and Staffing Agencies”).

IN AN EFFECTIVE safety and health program, all workers:

- Are encouraged to participate in the program and feel comfortable providing input and reporting safety or health concerns.
- Have access to information they need to participate effectively in the program.
- Have opportunities to participate in all phases of program design and implementation.
- Do not experience retaliation when they raise safety and health concerns; report injuries, illnesses, and hazards; participate in the program; or exercise safety and health rights.

Note: Where workers are represented by a union, it is important that worker representatives also participate in the program, consistent with the rights provided to worker representatives under the Occupational Safety and Health Act of 1970 and the National Labor Relations Act.



RETALIATION AGAINST WORKERS IS ILLEGAL

Section 11(c) of the Occupational Safety and Health Act of 1970 prohibits employers from retaliating against employees for exercising a variety of rights guaranteed under the OSH Act, such as filing a safety and health complaint with OSHA, raising a health and safety concern with their employers, participating in an OSHA inspection, or reporting a work-related injury or illness. OSHA vigorously enforces the anti-retaliation protections provided under 11(c) of the OSH Act and other federal statutes. For more information, see www.whistleblowers.gov.

Action item 1: Encourage workers to participate in the program

By encouraging workers to participate in the program, management signals that it values their input into safety and health decisions.

How to accomplish it

- Give workers the necessary time and resources to participate in the program.
- Acknowledge and provide positive reinforcement to those who participate in the program.
- Maintain an open door policy that invites workers to talk to managers about safety and health and to make suggestions.

Action item 2: Encourage workers to report safety and health concerns

Workers are often best positioned to identify safety and health concerns and program shortcomings, such as emerging workplace hazards, unsafe conditions, close calls/near misses, and actual incidents. By encouraging reporting and following up promptly on all reports, employers can address issues before someone gets hurt or becomes ill.

How to accomplish it

- Establish a process for workers to report injuries, illnesses, close calls/near misses, hazards, and other safety and health concerns, and respond to reports promptly. Include an option for anonymous reporting to reduce fear of reprisal.⁶
- Report back to workers routinely and frequently about action taken in response to their concerns and suggestions.
- Emphasize that management will use reported information only to improve workplace safety and health, and that no worker will experience retaliation for bringing such information to management’s attention (see Action item 5).
- Empower all workers to initiate or request a temporary suspension or shutdown of any work activity or operation they believe to be unsafe.
- Involve workers in finding solutions to reported issues.

Action item 3: Give workers access to safety and health information

Sharing relevant safety and health information with workers fosters trust and helps organizations make more informed safety and health decisions.

How to accomplish it

- Give workers the information they need to understand safety and health hazards and control measures in the workplace. Some OSHA standards require employers to make specific types of information available to workers, such as:
 - Safety Data Sheets (SDSs)
 - Injury and illness data (may need to be redacted and aggregated to eliminate personal identifiers)

⁶ Under OSHA’s injury and illness recordkeeping rule (29 CFR 1904), employers are required to establish a “reasonable” procedure for employees to report work-related injuries and illnesses promptly and accurately. A reasonable procedure is defined as one that would not deter or discourage a reasonable employee from accurately reporting a workplace injury or illness.

- Results of environmental exposure monitoring conducted in the workplace (prevent disclosure of sensitive and personal information as required)
- Other useful information for workers to review can include:
 - Workplace job hazard analyses
 - Chemical and equipment manufacturer safety recommendations
 - Workplace inspection reports
 - Incident investigation reports (prevent disclosure of sensitive and personal information as required)

Action item 4: Involve workers in all aspects of the program

Including worker input at every step of program design and implementation improves your ability to identify the presence and causes of workplace hazards, creates a sense of program ownership among workers, enhances their understanding of how the program works, and helps sustain the program over time.

How to accomplish it

- Provide opportunities for workers to participate in all aspects of the program, including, but not limited to helping:
 - Develop the program and set goals.
 - Report hazards and develop solutions that improve safety and health.
 - Analyze hazards in each step of routine and nonroutine jobs, tasks, and processes.
 - Define and document safe work practices.
 - Conduct site inspections.
 - Develop and revise safety procedures.
 - Participate in incident and close call/near miss investigations.
 - Train current coworkers and new hires.
 - Develop, implement, and evaluate training programs.
 - Evaluate program performance and identify ways to improve it.
 - Take part in exposure monitoring and medical surveillance associated with health hazards.



Action item 5: Remove barriers to participation

To participate meaningfully in the program, workers must feel that their input is welcome, their voices will be heard, and they can access reporting mechanisms. Participation will be suppressed if language, education, or skill levels in the workplace are not considered, or if workers fear retaliation or discrimination for speaking up (for example, if investigations focus on blaming individuals rather than the underlying conditions that led to the incident, or if reporting an incident or concern could jeopardize the award of incentive-based prizes, rewards, or bonuses).

How to accomplish it

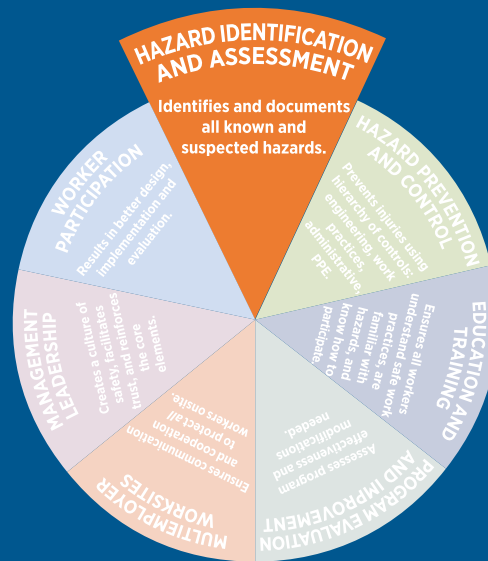
- Ensure that workers from all levels of the organization can participate regardless of their skill level, education, or language.
- Provide frequent and regular feedback to show employees that their safety and health concerns are being heard and addressed.
- Authorize sufficient time and resources to facilitate worker participation; for example, hold safety and health meetings during regular working hours.
- Ensure that the program protects workers from being retaliated against for reporting injuries, illnesses, and hazards; participating in the program; or exercising their safety and health rights. Ensure that other policies and programs do not discourage worker participation.
- Post the 11(c) fact sheet (found at www.whistleblowers.gov) in the workplace or otherwise make it available for easy access by workers.

Note: Incentive programs (such as point systems, awards, and prizes) should be designed in a manner that does not discourage injury and illness reporting; otherwise, hazards may remain undetected. Although sometimes required by law or insurance providers, mandatory drug testing following injuries can also suppress reporting. Effective safety and health programs recognize positive safety and health activities, such as reporting hazardous conditions or suggesting safer work procedures. (See OSHA's "Employer Safety Incentive and Disincentive Policies and Practices" memorandum, dated March 12, 2012: www.osha.gov/as/opa/whistleblowermemo.html.)



HAZARD IDENTIFICATION AND ASSESSMENT

ONE OF THE “root causes” of workplace injuries, illnesses, and incidents is the failure to identify or recognize hazards that are present, or that could have been anticipated. A critical element of any effective safety and health program is a proactive, ongoing process to identify and assess such hazards.



TO IDENTIFY AND ASSESS hazards, employers and workers:

- Collect and review information about the hazards present or likely to be present in the workplace.
- Conduct initial and periodic workplace inspections of the workplace to identify new or recurring hazards.
- Investigate injuries, illnesses, incidents, and close calls/near misses to determine the underlying hazards, their causes, and safety and health program shortcomings.
- Group similar incidents and identify trends in injuries, illnesses, and hazards reported.

- Consider hazards associated with emergency or nonroutine situations.
- For each hazard identified, determine the severity and likelihood of incidents that could result, and use this information to prioritize corrective actions.

Some hazards, such as housekeeping and tripping hazards, can and should be fixed as they are found. Fixing hazards on the spot emphasizes the importance of safety and health and takes advantage of a safety leadership opportunity. Fixing other hazards identified using the processes described here will be addressed in the next section, “Hazard Prevention and Control.”

Action item 1: Collect existing information about workplace hazards

Information on workplace hazards may already be available to employers and workers from both internal and external sources.

How to accomplish it

- Collect, organize, and review information with workers to determine what types of hazards may be present and which workers may be exposed or potentially exposed.
- Information available in the workplace may include:
 - Equipment and machinery operating manuals.

- SDSs provided by chemical manufacturers.
- Self-inspection reports and inspection reports from insurance carriers, government agencies, and consultants.
- Records of previous injuries and illnesses, such as OSHA 300 and 301 logs and reports of incident investigations.
- Workers' compensation records and reports.
- Patterns of frequently occurring injuries and illnesses.
- Exposure monitoring results, industrial hygiene assessments, and medical records (appropriately redacted to ensure patient/worker privacy).
- Existing safety and health programs (lockout/tagout, confined spaces, process safety management, PPE, etc.).
- Input from workers, including surveys or minutes from safety and health committee meetings.
- Results of job hazard analyses (JHAs, also known as job safety analyses or JSAs).
- Information about hazards may be available from outside sources, such as:
 - OSHA, National Institute for Occupational Safety and Health (NIOSH), and Centers for Disease Control and Prevention (CDC) websites, publications, and alerts.
 - Trade associations.
 - Labor unions, state and local occupational safety and health committees/coalitions (“COSH groups”), and worker advocacy groups.
 - Safety and health consultants.

Action item 2: Inspect the workplace for safety hazards

Hazards can be introduced over time as workstations and processes change, equipment or tools become worn, maintenance is neglected, or housekeeping practices decline. Setting aside time to regularly inspect the workplace for hazards can help identify shortcomings so that they can be addressed before an incident occurs.

How to accomplish it

- Conduct regular inspections of all operations, equipment, work areas, and facilities. Have workers participate on the inspection team, and talk to them about hazards that they see or report.
- Be sure to document inspections so you can later verify that hazardous conditions are corrected. Take photos or video of problem areas to facilitate later discussion and brainstorming about how to control them, and for use as learning aids.
- Include all areas and activities in these inspections, such as storage and warehousing, facility and equipment maintenance, purchasing and office functions, and the activities of on-site contractors, subcontractors, and temporary employees.
- Regularly inspect both plant vehicles (e.g., forklifts, powered industrial trucks) and transportation vehicles (e.g., cars, trucks).
- Use checklists that highlight things to look for. Typical hazards fall into several major categories, such as those listed below; each workplace will have its own list:
 - General housekeeping
 - Slip, trip, and fall hazards



- Electrical hazards
- Equipment operation
- Equipment maintenance
- Fire protection
- Work organization and process flow (including staffing and scheduling)
- Work practices
- Workplace violence
- Ergonomic problems
- Lack of emergency procedures
- Before changing operations, workstations, or workflow; making major organizational changes; or introducing new equipment, materials, or processes, seek the input of workers and evaluate the planned changes for potential hazards and related risks.

Note: Many hazards can be identified using common knowledge and available tools. For example, you can easily identify and correct hazards associated with broken stair rails and frayed electrical cords. Workers can be a very useful internal resource, especially if they are trained in how to identify and assess risks.

Action item 3: Identify health hazards

Identifying workers' exposure to health hazards is typically more complex than identifying physical safety hazards. For example, gases and vapors may be invisible, often have no odor, and may not have an immediately noticeable harmful health effect. Health hazards include chemical hazards (solvents, adhesives, paints, toxic dusts, etc.), physical hazards (noise, radiation, heat, etc.), biological hazards (infectious diseases), and ergonomic risk factors (heavy lifting, repetitive motions, vibration). Reviewing workers' medical records (appropriately redacted to ensure patient/worker privacy) can be useful in identifying health hazards associated with workplace exposures.

How to accomplish it

- Identify *chemical hazards*—review SDSs and product labels to identify chemicals in your workplace that have low exposure limits, are highly volatile, or are used in large quantities or in unventilated spaces. Identify activities that may result in skin exposure to chemicals.
- Identify *physical hazards*—identify any exposures to excessive noise (areas where you must raise your voice to be heard by others), elevated heat (indoor and outdoor), or sources of radiation (radioactive materials, X-rays, or radiofrequency radiation).

- Identify *biological hazards*—determine whether workers may be exposed to sources of infectious diseases, molds, toxic or poisonous plants, or animal materials (fur or scat) capable of causing allergic reactions or occupational asthma.
- Identify *ergonomic risk factors*—examine work activities that require heavy lifting, work above shoulder height, repetitive motions, or tasks with significant vibration.
- Conduct quantitative exposure assessments, when possible, using air sampling or direct reading instruments.
- Review medical records to identify cases of musculoskeletal injuries, skin irritation or dermatitis, hearing loss, or lung disease that may be related to workplace exposures.

Note: Identifying and assessing health hazards may require specialized knowledge. Small businesses can obtain free and confidential occupational safety and health advice services, including help identifying and assessing workplace hazards, through OSHA's On-site Consultation Program (see www.osha.gov/dcsp/smallbusiness/consult.html).

Action item 4: Conduct incident investigations

Workplace incidents—including injuries, illnesses, close calls/near misses, and reports of other concerns—provide a clear indication of where hazards exist. By thoroughly investigating incidents and reports, you will identify hazards that are likely to cause future harm. The purpose of an investigation must always be to identify the root causes (and there is often more than one) of the incident or concern, in order to prevent future occurrences.

How to accomplish it

- Develop a clear plan and procedure for conducting incident investigations, so that an investigation can begin immediately when an incident occurs. The plan should cover items such as:
 - Who will be involved
 - Lines of communication
 - Materials, equipment, and supplies needed
 - Reporting forms and templates
- Train investigative teams on incident investigation techniques, emphasizing objectivity and open-mindedness throughout the investigation process.
- Conduct investigations with a trained team that includes representatives of both management and workers.
- Investigate close calls/near misses.
- Identify and analyze root causes to address underlying program shortcomings that allowed the incidents to happen.
- Communicate the results of the investigation to managers, supervisors, and workers to prevent recurrence.

Note: OSHA has special reporting requirements for work-related incidents that lead to serious injury or a fatality (29 CFR 1904.39). OSHA must be notified within 8 hours of a work-related fatality, and within 24 hours of an amputation, loss of an eye, or inpatient hospitalization.

Note: Effective incident investigations do not stop at identifying a single factor that triggered an incident. They ask the questions “Why?” and “What led to the failure?” For example, if a piece of equipment fails, a good investigation asks: “Why did it fail?” “Was it maintained properly?” “Was it beyond its service life?” and “How could this failure have been prevented?” Similarly, a good incident investigation does not stop when it concludes that a worker made an error. It asks such questions as: “Was the worker provided with appropriate tools and time to do the work?” “Was the worker adequately trained?” and “Was the worker properly supervised?”

Action item 5: Identify hazards associated with emergency and nonroutine situations

Emergencies present hazards that need to be recognized and understood. Nonroutine or infrequent tasks, including maintenance and startup/shutdown activities, also present potential hazards. Plans and procedures need to be developed for responding appropriately and safely to hazards associated with foreseeable emergency scenarios and nonroutine situations.

How to accomplish it

- Identify foreseeable emergency scenarios and nonroutine tasks, taking into account the types of material and equipment in use and the location within the facility. Scenarios such as the following may be foreseeable:
 - Fires and explosions
 - Chemical releases
 - Hazardous material spills
 - Startups after planned or unplanned equipment shutdowns
 - Nonroutine tasks, such as infrequently performed maintenance activities
 - Structural collapse
 - Disease outbreaks
 - Weather emergencies and natural disasters
 - Medical emergencies
 - Workplace violence

Action item 6: Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control

The next step is to assess and understand the hazards identified and the types of incidents that could result from worker exposure to those hazards. This information can be used to develop interim controls and to prioritize hazards for permanent control (see “Hazard Prevention and Control”).

How to accomplish it

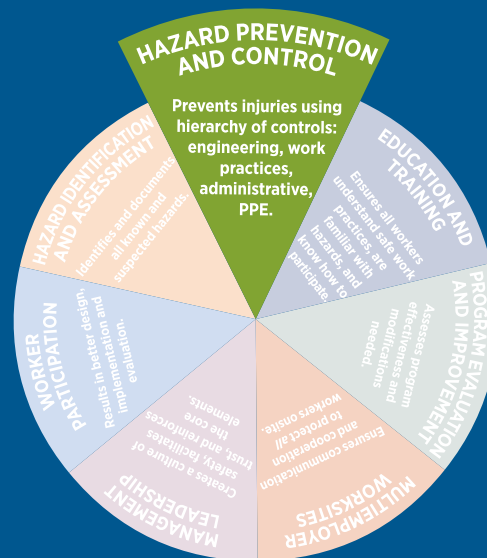
- Evaluate each hazard by considering the severity of potential outcomes, the likelihood that an event or exposure will occur, and the number of workers who might be exposed.
- Use interim control measures to protect workers until more permanent solutions can be implemented.
- Prioritize the hazards so that those presenting the greatest risk are addressed first. Note, however, that employers have an ongoing obligation to control all serious recognized hazards and to protect workers.



Note: “Risk” is the product of hazard and exposure. Thus, risk can be reduced by controlling or eliminating the hazard, or by reducing workers’ exposure to hazards. An assessment of risk helps employers understand hazards in the context of their own workplace, and prioritize hazards for permanent control.

HAZARD PREVENTION AND CONTROL

EFFECTIVE CONTROLS protect workers from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety and health risks; and help employers provide workers with safe and healthful working conditions. The processes described in this section will help employers prevent and control hazards identified in the previous section.



TO EFFECTIVELY CONTROL and prevent hazards, employers should:

- Involve workers, who often have the best understanding of the conditions that create hazards and insights into how they can be controlled.
- Identify and evaluate options for controlling hazards, using a “hierarchy of controls.”
- Use a hazard control plan to guide the selection and implementation of controls,

and implement controls according to the plan.

- Develop plans with measures to protect workers during emergencies and nonroutine activities.
- Evaluate the effectiveness of existing controls to determine whether they continue to provide protection, or whether different controls may be more effective. Review new technologies for their potential to be more protective, more reliable, or less costly.

Action item 1: Identify control options

A wealth of information exists to help employers investigate options for controlling identified hazards. Before selecting any control options, it is essential to solicit workers’ input on their feasibility and effectiveness.

How to accomplish it

- Review sources such as OSHA standards and guidance, industry consensus standards, NIOSH publications, manufacturers’ literature, and engineering reports to identify potential control measures. Keep current on relevant information from trade or professional associations.
- Investigate control measures used in other workplaces and determine whether they would be effective at your workplace.

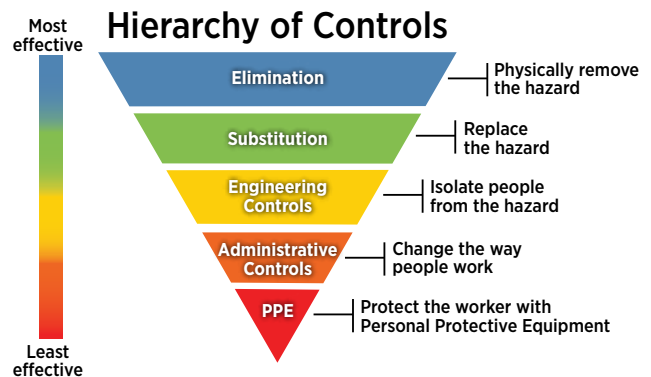
- Get input from workers who may be able to suggest and evaluate solutions based on their knowledge of the facility, equipment, and work processes.
- For complex hazards, consult with safety and health experts, including OSHA's On-site Consultation Program.

Action item 2: Select controls

Employers should select the controls that are the most feasible, effective, and permanent.

How to accomplish it

- Eliminate or control all serious hazards (hazards that are causing or are likely to cause death or serious physical harm) immediately.
- Use interim controls while you develop and implement longer-term solutions.
- Select controls according to a hierarchy that emphasizes engineering solutions (including elimination or substitution) first, followed by safe work practices, administrative controls, and finally PPE.
- Avoid selecting controls that may directly or indirectly introduce new hazards. Examples include exhausting contaminated air into occupied work spaces or using hearing



Source: NIOSH

protection that makes it difficult to hear backup alarms.

- Review and discuss control options with workers to ensure that controls are feasible and effective.
- Use a combination of control options when no single method fully protects workers.

Note: Whenever possible, select equipment, machinery, and materials that are inherently safer based on the application of "Prevention through Design" (PtD) principles. Apply PtD when making your own facility, equipment, or product design decisions. For more information, see the link to the NIOSH PtD initiative on the [recommended practices Web page](#).

Action item 3: Develop and update a hazard control plan

A hazard control plan describes how the selected controls will be implemented. An effective plan will address serious hazards first. Interim controls may be necessary, but the overall goal is to ensure effective long-term control of hazards. It is important to track progress toward completing the control plan, and periodically (at least annually and when conditions, processes, or equipment change) verify that controls remain effective.

How to accomplish it

- List the hazards needing controls in order of priority.
- Assign responsibility for installing or implementing the controls to a specific person or persons with the power or ability to implement the controls.

- Establish a target completion date.
- Plan how you will track progress toward completion.
- Plan how you will verify the effectiveness of controls after they are installed or implemented.

Action item 4: Select controls to protect workers during nonroutine operations and emergencies

The hazard control plan should include provisions to protect workers during nonroutine operations and foreseeable emergencies. Depending on the workplace, these could include fires, explosions, chemical releases, hazardous material spills, unplanned equipment shutdowns, infrequent maintenance activities, natural and weather disasters, workplace violence, terrorist or criminal attacks, disease outbreaks (e.g., pandemic influenza), or medical emergencies. Nonroutine tasks, or tasks workers don't normally do, should be approached with particular caution. Prior to initiating such work, review JSAs/JHAs with any workers involved and notify others about the nature of the work, work schedule, and any necessary precautions.

How to accomplish it

- Develop procedures to control hazards that may arise during nonroutine operations (e.g., removing machine guarding during maintenance and repair).
- Develop or modify plans to control hazards that may arise in emergency situations.
- Procure any equipment needed to control emergency-related hazards.
- Assign responsibilities for implementing the emergency plan.
- Conduct emergency drills to ensure that procedures and equipment provide adequate protection during emergency situations.

Note: Depending on your location, type of business, and materials stored or used on site, authorities including local fire and emergency response departments, state agencies, the U.S. Environmental Protection Agency, the Department of Homeland Security, and OSHA may have additional requirements for emergency plans. Ensure that your procedures comply with these requirements.

Action item 5: Implement selected controls in the workplace

Once hazard prevention and control measures have been identified, they should be implemented according to the hazard control plan.

How to accomplish it

- Implement hazard control measures according to the priorities established in the hazard control plan.
- When resources are limited, implement measures on a “worst-first” basis, according to the hazard ranking priorities (risk) established during hazard identification and assessment. (Note, however, that regardless of limited resources, employers have an obligation to protect workers from recognized, serious hazards.)
- Promptly implement any measures that are easy and inexpensive—such as general housekeeping, removal of obvious tripping hazards such as electrical cords, and basic lighting—regardless of the level of hazard they involve.

Action item 6: Follow up to confirm that controls are effective

To ensure that control measures are and remain effective, employers should track progress in implementing controls, inspect and evaluate controls once they are installed, and follow routine preventive maintenance practices.

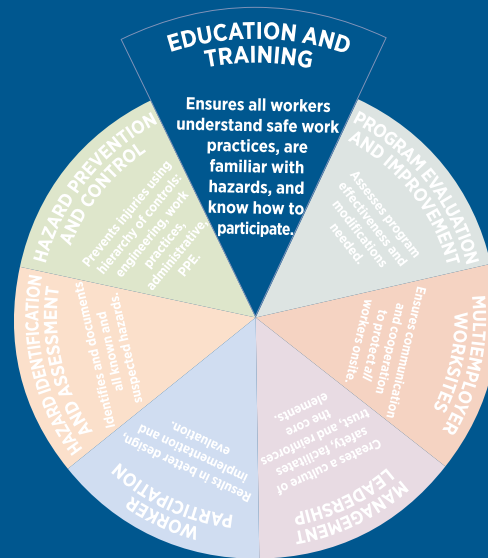
How to accomplish it

- Track progress and verify implementation by asking the following questions:
 - Have all control measures been implemented according to the hazard control plan?
 - Have engineering controls been properly installed and tested?
 - Have workers been appropriately trained so that they understand the controls, including how to operate engineering controls, safe work practices, and PPE use requirements?
 - Are controls being used correctly and consistently?
- Conduct regular inspections (and industrial hygiene monitoring, if indicated) to confirm that engineering controls are operating as designed.
- Evaluate control measures to determine if they are effective or need to be modified. Involve workers in the evaluation of the controls. If controls are not effective, identify, select, and implement further control measures that will provide adequate protection.
- Confirm that work practices, administrative controls, and PPE use policies are being followed.
- Conduct routine preventive maintenance of equipment, facilities, and controls to help prevent incidents due to equipment failure.



EDUCATION AND TRAINING

EDUCATION AND TRAINING are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Another role of education and training, however, is to provide workers and managers with a greater understanding of the safety and health program itself, so that they can contribute to its development and implementation.



EDUCATION AND TRAINING provides employers, managers, supervisors, and workers with:

- Knowledge and skills needed to do their work safely and avoid creating hazards that could place themselves or others at risk.
- Awareness and understanding of workplace hazards and how to identify, report, and control them.
- Specialized training, when their work involves unique hazards.

Additional training may be needed depending on the roles assigned in the program. For example,

employers, managers, and supervisors may need specific training to ensure that they can fulfill their roles in providing leadership, direction, and resources for the safety and health program. Workers assigned specific roles in the program (e.g., incident investigation team members) may need training to ensure their full participation in those functions.

Effective training and education can be provided outside a formal classroom setting. Peer-to-peer training, on-the-job training, and worksite demonstrations can be effective in conveying safety concepts, ensuring understanding of hazards and their controls, and promoting good work practices.

Action item 1: Provide program awareness training

Managers, supervisors, and workers all need to understand the program’s structure, plans, and procedures. Having this knowledge ensures that everyone can fully participate in developing, implementing, and improving the program.

How to accomplish it

- Provide training to all managers; supervisors; workers; and contractor, subcontractor, and temporary agency workers on:
 - Safety and health policies, goals, and procedures
 - Functions of the safety and health program
 - Whom to contact with questions or concerns about the program (including contact information)



- How to report hazards, injuries, illnesses, and close calls/near misses
- What to do in an emergency
- The employer’s responsibilities under the program
- Workers’ rights under the OSH Act
- Provide information on the safety and health hazards of the workplace and the controls for those hazards.
- Ensure that training is provided in the language(s) and at a literacy level that all workers can understand.
- Emphasize that the program can only work when everyone is involved and feels comfortable discussing concerns; making suggestions; and reporting injuries, incidents, and hazards.
- Confirm, as part of the training, that all workers have the right to report injuries, incidents, hazards, and concerns and to fully participate in the program without fear of retaliation.

Action item 2: Train employers, managers, and supervisors on their roles in the program

Employers, managers, and supervisors are responsible for workers’ safety, yet sometimes have little training on safety-related concepts and techniques. They might benefit from specific training that allows them to fulfill their leadership roles in the program.

How to accomplish it

- Reinforce employers, managers, and supervisors’ knowledge of their responsibilities under the OSH Act and the workers’ rights guaranteed by the Act.
- Train employers, managers, and supervisors on procedures for responding to workers’ reports of injuries, illnesses, and incidents, including ways to avoid discouraging reporting.
- Instruct employers, managers, and supervisors on fundamental concepts and techniques for recognizing hazards and methods of controlling them, including the hierarchy of controls (see “Hazard Prevention and Control”).
- Instruct employers, managers, and supervisors on incident investigation techniques, including root cause analysis.

Action item 3: Train workers on their specific roles in the safety and health program

Additional training may be needed to ensure that workers can incorporate any assigned safety and health responsibilities into their daily routines and activities.

How to accomplish it

- Instruct workers on how to report injuries, illnesses, incidents, and concerns. If a computerized reporting system is used, ensure that all employees have the basic computer skills and computer access sufficient to submit an effective report.
- Instruct workers assigned specific roles within the safety and health program on how they should carry out those responsibilities, including:
 - Hazard recognition and controls (see Action item 4)
 - Participation in incident investigations
 - Program evaluation and improvement
- Provide opportunities for workers to ask questions and provide feedback during and after the training.
- As the program evolves, institute a more formal process for determining the training needs of workers responsible for developing, implementing, and maintaining the program.

Action item 4: Train workers on hazard identification and controls

Providing workers with an understanding of hazard recognition and control, and actively involving them in the process, can help to eliminate hazards before an incident occurs.

How to accomplish it

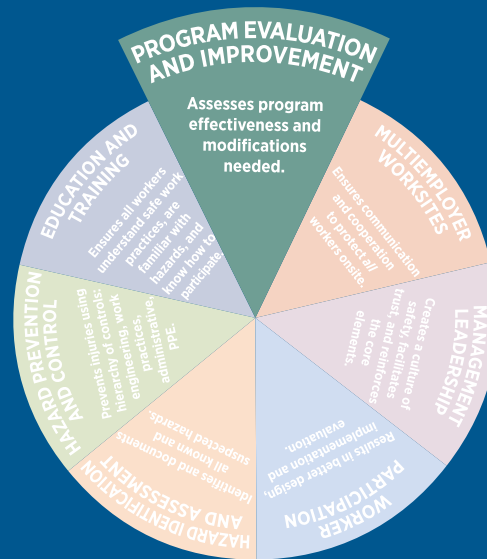
- Train workers on techniques for identifying hazards, such as job hazard analysis (see OSHA Publication 3071).
- Train workers so they understand and can recognize the hazards they may encounter in their own jobs, as well as more general work-related hazards.
- Instruct workers on concepts and techniques for controlling hazards, including the hierarchy of controls and its importance.
- Train workers on the proper use of work practice and administrative controls.
- Train workers on when and how to wear required PPE.
- Provide additional training, as necessary, when a change in facilities, equipment, processes, materials, or work organization



could increase hazards, and whenever a worker is assigned a new task.

PROGRAM EVALUATION AND IMPROVEMENT

ONCE A SAFETY and health program is established, it should be evaluated initially to verify that it is being implemented as intended. After that, employers should periodically, and at least annually, step back and assess what is working and what is not, and whether the program is on track to achieve its goals. Whenever these assessments identify opportunities to improve the program, employers, managers, and supervisors—in coordination with workers—should make adjustments and monitor how well the program



performs as a result. Sharing the results of monitoring and evaluation within the workplace, and celebrating successes, will help drive further improvement.

PROGRAM EVALUATION and improvement includes:

- Establishing, reporting, and tracking goals and targets that indicate whether the program is making progress.
- Evaluating the program initially, and periodically thereafter, to identify shortcomings and opportunities for improvement.
- Providing ways for workers to participate in program evaluation and improvement.

Action item 1: Monitor performance and progress

The first step in monitoring is to define indicators that will help track performance and progress. Next, employers, managers, supervisors, and workers need to establish and follow procedures to collect, analyze, and review performance data.

Both *lagging* and *leading* indicators should be used. Lagging indicators generally track worker exposures and injuries that have already occurred. Leading indicators track how well various aspects of the program have been implemented and reflect steps taken to prevent injuries or illnesses before they occur.

How to accomplish it

- Develop and track indicators of progress toward established safety and health goals.
 - Track *lagging indicators*, such as:
 - ◆ Number and severity of injuries and illnesses
 - ◆ Results of worker exposure monitoring that show that exposures are hazardous
 - ◆ Workers' compensation data, including claim counts, rates, and cost

- Track *leading indicators*, such as:
 - ◆ Level of worker participation in program activities
 - ◆ Number of employee safety suggestions
 - ◆ Number of hazards, near misses, and first aid cases reported
 - ◆ Amount of time taken to respond to reports
 - ◆ Number and frequency of management walkthroughs
 - ◆ Number and severity of hazards identified during inspections
 - ◆ Number of workers who have completed required safety and health training
- ◆ Timely completion of corrective actions after a workplace hazard is identified or an incident occurs
- ◆ Timely completion of planned preventive maintenance activities
- ◆ Worker opinions about program effectiveness obtained from a safety climate or safety opinion survey
- Analyze performance indicators and evaluate progress over time.
- Share results with workers and invite their input on how to further improve performance.
- When opportunities arise, share your experience and compare your results to similar facilities within your organization, with other employers you know, or through business or trade associations.

Note: Indicators can be either quantitative or qualitative. Whenever possible, select indicators that are measurable (quantitative) and that will help you determine whether you have achieved your program goals. The number of reported hazards and near misses would be a quantitative indicator. A single worker expressing a favorable opinion about program participation would be a qualitative indicator.

Action item 2: Verify that the program is implemented and is operating

Initially and at least annually, employers need to evaluate the program to ensure that it is operating as intended, is effective in controlling identified hazards, and is making progress toward established safety and health goals and objectives. The scope and frequency of program evaluations will vary depending on changes in OSHA standards; the scope, complexity, and maturity of the program; and the types of hazards it must control.

How to accomplish it

- Verify that the core elements of the program have been fully implemented.
- Involve workers in all aspects of program evaluation, including reviewing information (such as incident reports and exposure monitoring results); establishing and tracking performance indicators; and identifying opportunities to improve the program.
- Verify that the following key processes are in place and operating as intended:
 - Reporting injuries, illnesses, incidents, hazards, and concerns
 - Conducting workplace inspections and incident investigations
 - Tracking progress in controlling identified hazards and ensuring that hazard control measures remain effective
 - Collecting and reporting any data needed to monitor progress and performance

- Review the results of any compliance audits to confirm that any program shortcomings are being identified. Verify that actions are being taken that will prevent recurrence.

Action item 3: Correct program shortcomings and identify opportunities to improve

Whenever a problem is identified in any part of the safety and health program, employers—in coordination with supervisors, managers, and workers—should take prompt action to correct the problem and prevent its recurrence.

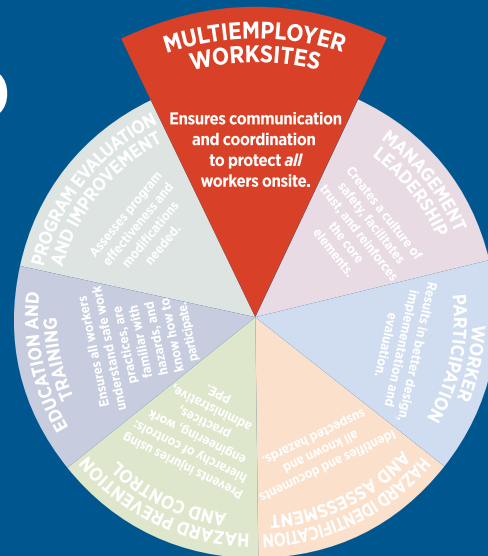
How to accomplish it

- If you discover program shortcomings, take actions needed to correct them.
- Proactively seek input from managers, workers, supervisors, and other stakeholders on how you can improve the program.
- Determine whether changes in equipment, facilities, materials, key personnel, or work practices trigger any need for changes in the program.
- Determine whether your performance indicators and goals are still relevant and, if not, how you could change them to more effectively drive improvements in workplace safety and health.

Note: The scope and frequency of program evaluations will depend on the scope, complexity, and maturity of the program and on the types of hazards it must control. Program evaluations should be conducted periodically (and at least annually) but might also be triggered by a change in process or equipment, or an incident such as a serious injury, significant property damage, or an increase in safety-related complaints.



COMMUNICATION AND COORDINATION FOR HOST EMPLOYERS, CONTRACTORS, AND STAFFING AGENCIES



IN TODAY'S ECONOMY, an increasing number of workers are assigned by staffing agencies to work at specific "host" worksites under the direction and control of the host employer. Examples include seasonal workers, such as delivery drivers and warehouse workers, who help fill a temporary staffing need, as well as office and production workers who may be placed in both short- and long-term assignments. In these situations, it is important for the staffing agency and the host employer to communicate and coordinate to provide and maintain a safe work environment for their workers.

In other situations, some workers are employed by a host employer and others by a contractor or subcontractor. Examples include electrical or mechanical contractors working in a facility, a vendor installing or maintaining equipment, or long-term contractors providing building cleaning and maintenance. OSHA refers to these as "multiemployer" worksites. In these circumstances, it is important that each employer and contractor consider how its work and safety activities can affect the safety of other employers and workers at the site.

IN BOTH TEMPORARY WORKER and multiemployer situations, safety is enhanced if employers establish mechanisms to coordinate their efforts and communicate effectively to afford all workers equal protection against hazards. These mechanisms include measures to ensure that all workers on site (and their representatives) can participate in preventing injuries and illnesses. Failure to take these steps

may undermine safety programs. For example, if the different employers have inconsistent policies for when and where to wear PPE, workers may mistakenly believe that the equipment is not needed, leading to injury. Inconsistent safety policies may also cause workers to question the credibility of safety and health programs, resulting in less meaningful employee engagement and participation.



- Host employers and their workers are aware of:
 - The types of hazards that may arise from the work being done on site by workers employed by contractors or staffing agencies.
 - The procedures or measures needed to avoid or control exposure to these hazards.
 - How to contact the contract or staffing firm if they have a safety concern.
 - What to do in case of an emergency.

Effective communication and coordination among such employers means that:

- Before coming on site, contractors and staffing agencies and their workers are aware of:
 - The types of hazards that may be present.
 - The procedures or measures they need to use to avoid or control their exposure to these hazards.
 - How to contact the host employer to report an injury, illness, or incident or if they have a safety concern.

Definitions

Host employer: An employer who has general supervisory authority over the worksite, including controlling the means and manner of work performed and having the power to correct safety and health hazards or require others to correct them.

Contractor: An individual or firm that agrees to furnish materials or perform services at a specified price, and controls the details of how the work will be performed and completed.

Staffing agency: A firm that provides temporary workers to host employers. A staffing agency hires its own employees and assigns them to support or supplement a client's workforce in situations involving employee absences, temporary skill shortages, seasonal workloads, and special projects.

Temporary workers: Workers hired and paid by a staffing agency and assigned to work for a host employer, whether or not the job is actually temporary.

Action item 1: Establish effective communication

Each host employer establishes and implements a procedure to ensure the exchange of information about hazards present on site and the hazard control measures in place. Thus, all workers on the site are aware of worksite hazards, and the methods and procedures needed to control exposures to them.

How to accomplish it

- The host employer communicates with contractors and staffing agencies to determine which among them will implement and maintain the various parts of the safety and health program, to ensure protection of all on-site workers before work begins. These determinations can be included in contract documents that define the relationships between the parties.
- The host employer establishes and implements procedures to exchange information with contractors and staffing agencies about hazards present in the workplace and the measures that have been implemented to prevent or control such hazards.
- The host employer gathers and disseminates information sufficient to enable each employer to assess hazards encountered by its workers and to avoid creating hazards that affect workers on the site.
- Contractors and staffing agencies regularly give the host employer any information about injuries, illnesses, hazards, or concerns reported by their workers and the results of any tracking or trend analysis they perform.
- Each contractor establishes and implements a procedure for providing the host employer with information about the hazards and control measures associated with the work being done by its workers, and the procedures it will use to protect workers on the site.
- The host employer gives contract employers and staffing agencies the right to conduct site visits and inspections and to access injury and illness records and other safety and health information.
- The host employer communicates with contractors and staffing agencies and their workers about nonroutine and emergency hazards and emergency procedures.
- Information is communicated before on-site work starts and, as needed, if conditions change.



Action item 2: Establish effective coordination

Host employers, contractors, and staffing agencies coordinate on work planning, scheduling, and resolving program differences to identify and work out any concerns or conflicts that could impact safety or health.

How to accomplish it

- Host employers:
 - Include in contracts and bid documents any safety-related specifications and qualifications and ensure that contractors and staffing agencies selected for the work meet those requirements.
 - Identify issues that may arise during on-site work and include procedures to be used by the host employer and contractors and/or staffing agencies for resolving any conflicts before work starts.
- Host employers coordinate with contractors and staffing agencies to:
 - Ensure that work is planned and scheduled to minimize impacts on safety.
 - Ensure that staffing agency workers are adequately trained and equipped before arriving on the worksite.
 - Harmonize their safety and health policies and procedures to resolve important differences, so that all workers at the site have the same protection and receive consistent safety information.
- Host employers and staffing agencies:
 - Work together to deal with unexpected staffing needs by ensuring that enough trained and equipped workers are



available or that adequate lead time is provided to train and equip workers.

- Make sure that managers with decision-making authority are available and prepared to deal with day-to-day coordination issues.

LIST OF ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PPE	personal protective equipment
PtD	Prevention through Design
SDS	Safety Data Sheet
SHARP	Safety and Health Achievement Recognition Program
VPP	Voluntary Protection Programs

GLOSSARY OF TERMS

close call/near miss:	An incident that could have, but did not, result in death, injury, or illness. They signal that hazards are not being adequately controlled or that new hazards have arisen.
contractor:	An individual or firm that agrees to furnish materials or perform services at a specified price.
elimination:	A change in process or workplace condition that removes the hazard or ensures that no worker can be exposed to a hazard under any foreseeable circumstances.
hierarchy of controls:	<p>A system for selecting and implementing the most effective control solutions for workplace hazards that includes:</p> <ul style="list-style-type: none">• Elimination.• Substitution.• Engineering controls.• Administrative controls.• Personal protective equipment. <p>This is known as the “hierarchy of controls” because they should be considered in the order presented. Controls at the top of the hierarchy are potentially more effective and more protective than those lower in the hierarchy.</p>

host employer:	An employer who has general supervisory authority over the worksite, including controlling the means and manner of work performed and having the power to correct safety and health hazards or require others to correct them.
industrial hygiene:	The science of protecting and enhancing the health and safety of people at work and in their communities.
job hazard analysis:	A technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationships among the worker, the task, the tools, and the work environment.
joint-employed worker:	A worker hired and paid by a staffing agency and assigned to work for a host employer, whether or not the job is actually temporary.
lagging indicators:	Measures of the occurrence and frequency of events in the past such as the number or rate of injuries, illnesses, and fatalities.
leading indicators:	Measures intended to predict the occurrence of events in the future. Leading indicators are proactive, preventative, and predictive measures that provide information about the effective performance of safety and health program activities that can drive the control of workplace hazards.
metrics:	Measures of performance.
multiemployer worksite:	Any worksite where two or more employers are present. See OSHA's Multiemployer Citation Policy .
nonroutine operations:	Operations that do not occur frequently or that occur as a result of an emergency.
peer-to-peer training:	A type of on-the-job training where workers exchange information about hazards, controls, reporting procedures, and work procedures that are relevant to the safety and health program.
Prevention through Design:	A NIOSH national initiative to prevent or reduce occupational injuries, illnesses, and fatalities through the inclusion of prevention considerations in all designs that impact workers. PtD encompasses all of the efforts to anticipate and design out hazards to workers in facilities, work methods and operations, processes, equipment, tools, products, new technologies, and the organization of work.
quantitative exposure assessment:	Techniques used to quantitatively measure workers' exposure to hazards, particularly health hazards, such as sampling for chemicals, dusts, biological organisms, noise, radiation, or other assessments. The purpose of such assessments is to quantify the level of workers' exposure to a hazard. Also known as exposure monitoring.
root cause analysis:	A collective term that describes a wide range of approaches, tools, and techniques used to uncover causes of problems.

Safety and Health Achievement Recognition Program:	An OSHA program that recognizes small business employers who have used OSHA's On-site Consultation Program services and operate an exemplary injury and illness prevention program.
safety data sheet:	Written or printed material used to communicate the hazards of substances and chemical products to employees prepared in accordance with paragraph (g) of OSHA's Hazard Communication standard .
serious hazards:	Hazards that are causing or are likely to cause death or serious physical harm. See OSHA's Field Operations Manual , Chapter 4.
shortcoming:	A fault, deficiency, or gap that results in a failure to meet program design criteria.
staffing agency:	A firm that provides temporary workers to host employers. A staffing agency hires its own employees and assigns them to support or supplement a client's workforce in situations involving employee absences, temporary skill shortages, seasonal workloads, and special projects.
substitution:	The replacement of toxic or hazardous materials (or the equipment or processes used with them) with ones that are less harmful.
Voluntary Protection Programs:	An OSHA initiative that recognizes employers and workers in the private industry and federal agencies who have implemented effective safety and health management systems and maintain injury and illness rates below the U.S. Bureau of Labor Statistics averages for their respective industries.
work practices:	A set of procedures for performing a specific work assignment safely.

(/niosh/index.htm)

OCCUPATIONAL HEALTH SAFETY NETWORK (OHSN)



As of June 1, 2018, we have stopped enrolling new healthcare facilities in the Occupational Health Safety Network (OHSN). The Office of Management and Budget (OMB), which approves all government data collections, placed restrictions on our ability to use the OHSN data. The OMB review indicated that because the information collected by OHSN will not be representative of healthcare facilities we cannot conduct inter-facility comparisons, a main component of the OHSN model. We have not found a cost-effective approach that will meet the OMB requirements and have decided to stop new enrollments and data processing for new enrollees and inactive users.

The OHSN system will be retired on September 30, 2019. If you have questions, please see our [FAQs](#) page or email us at NIOSHOHSN@cdc.gov (mailto:NIOSHOHSN@cdc.gov).

What is the Occupational Health Safety Network?

The Occupational Health Safety Network (OHSN) was designed for healthcare facilities to monitor work-related injuries and exposures. The system enables participating facilities to analyze worker injury and exposure data that they already collect. Trends for traumatic injury and hazardous exposures are visualized using the OHSN chart function.

Five common, high risk, preventable injury and exposure events among healthcare workers are monitored by OHSN:

- Sharps Injuries
- Blood and Body Fluid Exposures
- Slips, Trips, and Falls
- Patient Handling Injuries
- Workplace Violence



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Morbidity and Mortality Weekly Report (MMWR)

Occupational Traumatic Injuries Among Workers in Health Care Facilities — United States, 2012–2014

Weekly

April 24, 2015 / 64(15);405-410

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In 2013, one in five reported nonfatal occupational injuries occurred among workers in the health care and social assistance industry, the highest number of such injuries reported for all private industries (1). In 2011, U.S. health care personnel experienced seven times the national rate of musculoskeletal disorders compared with all other private sector workers (2). To reduce the number of preventable injuries among health care personnel, CDC's National Institute for Occupational Safety and Health (NIOSH), with collaborating partners, created the Occupational Health Safety Network (OHSN) to collect detailed injury data to help target prevention efforts. OHSN, a free, voluntary surveillance system for health care facilities, enables prompt and secure tracking of occupational injuries by type, occupation, location, and risk factors. This report describes OHSN and reports on current findings for three types of injuries. A total of 112 U.S. facilities reported 10,680 OSHA-recordable* patient handling and movement (4,674 injuries); slips, trips, and falls (3,972 injuries); and workplace violence (2,034 injuries) injuries occurring from January 1, 2012–September 30, 2014. Incidence rates for patient handling; slips, trips, and falls; and workplace violence were 11.3, 9.6, and 4.9 incidents per 10,000 worker-months,[†] respectively. Nurse assistants and nurses had the highest injury rates of all occupations examined. Focused interventions could mitigate some injuries. Data analyzed through OHSN identify where resources, such as lifting equipment and training, can be directed to potentially reduce patient handling injuries. Using OHSN can guide institutional and national interventions to protect health care personnel from common, disabling, preventable injuries.

OHSN is a web-based data portal that accepts health care facilities' existing OSHA-recordable and non-recordable health care personnel injury data. De-identified injury data are converted to standard OHSN data elements designed to characterize first, the occupation of the injured worker; second, the type, severity, cause and location of the injury; and finally, information useful in determining how the injury could be prevented. Standardization of data across all facilities allows comparison within and across facilities; comparison groups can be selected by OHSN participants (e.g., hospitals of comparable size or in the same geographic region). New data submissions are available to OHSN participants within a week, and they can analyze new and historical injury data and produce outputs in the form of graphs and tables at any time. The NIOSH OHSN topic page provides information on 1) data terminology, transmission, and security; 2) examples of output graphs and tables; and 3) intervention resources (3).

OHSN received data on injuries occurring from January 1, 2012–September 30, 2014, from 112 U.S. health care facilities. Pooled mean incidence rates§ and percentiles were calculated for three types of OSHA-recordable injuries: 1) falls, including slipping or tripping without a fall; 2) patient handling (e.g., handling, pushing, pulling, or lifting patients); and 3) workplace violence (i.e., violent acts directed at health care personnel). For each of the three injury types, the same denominator was used for all sub-analyses within an injury type, because more specific denominators were not available.

The 112 participating facilities were located in 19 states, with 52% located in the Midwest. By size, 46% had bed numbers of less than 200 and by type, 95% were general medical and surgical facilities. The participating facilities had a total of 162,535 full-time employees and reported a total of 13,798 slips, trips, and falls; patient handling; and workplace violence injuries; of this total, 10,680 (77.4%) were OSHA-recordable injuries. Overall incidence rates of OSHA-recordable injuries (average worker-months = 125,041) per 10,000 worker-months for patient handling; slips, trips and falls; and workplace violence were 11.3, 9.6, and 4.9, respectively (Table). Most injuries occurred in two groups of workers, those aged 30–44 years (35%) and those aged 45–64 years (44%). Nurses (38%) and nursing assistants (19%) accounted for 57% of identified OSHA-recordable injuries. Between 70%–90% of OSHA-recordable patient handling; slips, trips, and falls; and workplace violence injuries occurred among female employees.

Nurse assistants were more likely to sustain injuries than workers in other job categories; this occupation had more than twice the injury rate of nurses for patient handling and workplace violence injuries (Figure 1). Injury rates for slips, trips, and falls were highest among nonpatient care staff (e.g., maintenance and security staff), nursing assistants, and nurses. Between 2012 and 2014, workplace violence injury rates increased for all job classifications and nearly doubled for nurse assistants and nurses (Figure 2). Patient handling and workplace violence injury rates were highest in inpatient adult wards; these rates were also elevated in outpatient emergency departments, urgent care, and acute care centers and adult critical care departments. Rates of falls were highest in inpatient adult wards, nonpatient care maintenance areas, and operating rooms (Table).

Of all patient handling injury reports, 62% included data on the use of lifting equipment; 82% of the injuries occurred when lifting equipment was not used (Table). Of all slips, trips and falls injury reports, 65% had data on fall type; 89% were falls on the same level, 9% were falls to a lower level (e.g., down stairs, ramps, etc.) and 2% were slips and trips without falling. Of all workplace violence injury reports, 49% specified type of assault (physical, verbal, or destruction of property); 99% were physical assaults. Descriptions of who perpetrated the assaults were included in 13% of workplace violence injury reports; 95% were committed by patients which is in agreement with previous study findings (4).

Discussion

This report examines patient handling; slips, trips, and falls; and workplace violence injuries, which make up a substantial portion of all occupational injuries in the health care sector, as reported by the national Bureau of Labor Statistics findings for workers in all sectors (5). Overall, for the 112 OHSN participating facilities, rates of patient handling and workplace violence injuries were highest among nurse assistants and nurses; rates of slips, trips, and falls were high for these jobs and also for nonpatient care staff. In contrast, physicians, dentists, interns, and residents have low injury rates. These data indicate that interventions should first focus on prevention of injuries to nurse assistants and nurses from patient handling; slips, trips, and falls; and workplace violence. Patient handling and workplace violence injuries reported to OHSN were clustered in locations providing direct patient care, while slips, trips, and fall injuries occurred in both patient and non-patient areas. Analysis of detailed, facility-level data could identify the higher risk occupations and locations of each facility and assist in customizing prevention measures.

Other studies found that musculoskeletal disorders are increasing among health care personnel (2). Nursing staff are exposed to several musculoskeletal disorder risk factors: 1) caring for overweight/obese and acutely ill patients; 2) high patient-to-nurse ratios; 3) long shifts; and 4) current efforts to mobilize patients almost immediately after medical interventions (6). Prevention measures might concentrate on mitigating the high-risk aspects of these jobs. Similar to findings from other studies, OHSN data indicate that interventions (e.g., the use of lifting equipment) could potentially reduce patient-handling injuries, particularly for activities involving positioning, transferring, or lifting a patient (7). Additionally, to prevent patient-handling injuries, health care institutions might establish a safety culture emphasizing

continuous improvement and also provide resources such as training in safe patient handling and access to lifting teams and lifting equipment. On the basis of OHSN findings, the major causes of slip, trip, and fall injuries are floor contaminants and contact with objects; however, the variability in types of these injuries indicates that each facility should use facility-specific data to guide prevention measures. The OHSN topic page provides links to helpful resources on safe patient handling methods and prevention of falls among health care personnel, including a comprehensive falls hazards checklist (3).

In 2013, Bureau of Labor Statistics found rates of injuries and illnesses resulting from workplace violence increased for the second year in a row to 16.2 cases per 10,000 full-time workers in the health care and social assistance sector (5). Data reported to OHSN revealed the same trend. The OHSN topic page provides links to workplace violence prevention resources, including an online course to help hospital staff with identifying patients at risk for committing violent acts (those with mental illness, behavioral disorders, and cognitive dysfunction) as well as ways to moderate and prevent violent patient behavior (3).

The findings in this report are subject to at least four limitations. First, in 2012–2014, only 112 U.S. health care facilities from 19 states participated, and the data in this report might not be very representative of the thousands of health care facilities in the United States. Second, a considerable proportion of OHSN injury data regarding risk factors are categorized as unspecified, which could limit OHSN's ability to identify causality and prevention needs. Third, possible participation, reporting, and recording biases might exist. Voluntary participation might skew participation to best-practice facilities and some facilities might not report all injury data, leading to underestimation of injury rates. Not all facilities collect detailed data requested by OHSN, such as specific activities which lead to patient-handling injuries or why a patient or coworker commits violence against health care personnel. Thus, missing data might bias the results. As participating facilities submit more complete information on worker injuries, the large amount of unspecified data might likely diminish. NIOSH personnel can assist facilities with improving data completeness and quality.

OHSN offers a variety of tools for NIOSH and health care institutions to work toward a common goal of employee safety and health by reducing all types of injuries among health care personnel. OHSN enables health care facilities to track injuries; collect and analyze detailed standard injury data to direct resources toward employees, departments, and situations most at risk; compare their own injury rates with groups of their choosing; access prevention resources; facilitate implementation of timely prevention measures; and monitor intervention impact. Emphasizing worker safety promotes and strengthens patient safety (8), which contributes to improved patient care and reduced costs (9). Future improvements to OHSN include plans to develop a module to systematically collect detailed information on occupational injuries from needles, scalpels, and other sharp objects, and blood and body fluid exposures among health care personnel to assist in creating prevention strategies for those hazards. Targeting prevention strategies can protect health care personnel from prevalent, disabling injuries and help in managing resources.




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* OSHA-recordable injuries are defined as work-related injuries and illnesses that result in at least one of the following: death, loss of consciousness, days away from work, restricted work activity or job transfer, medical treatment beyond first aid, or a diagnosis by a physician or other licensed health care professional.

† Worker-months are defined as the number of full-time equivalent workers at a facility (or group of facilities) multiplied by the number of months worked within the reporting period. For example, a facility with a stable workforce of 1,000 full-time workers has 12,000 worker-months in a 12 month reporting period. If this same facility reported data for only 8 months, then they would have 8,000 worker-months. The total number of facility full-time employees is derived from the annual American Hospital Association survey and confirmed or modified by participating facilities to OHSN.

§ A pooled mean is the total number of incidents occurring at all the facilities of interest within a given reporting period divided by the sum of the denominators for the same facilities over the same reporting period. A facility's denominator is the product of a facility's size (number of workers) and length of the facility's participation (in months) within the given reporting period.

What is already known on this topic?

The health care and social assistance sector accounts for the greatest proportion (20.7%) of private industry nonfatal occupational injuries among all sectors. The most common injuries are due to patient handling; slips, trips, and falls; and workplace violence.

What is added by this report?

The Occupational Health Safety Network (OHSN) collects and reports near real-time, specific, standard benchmarking information on injuries to help target prevention measures toward workers, departments, and activities at highest risk. From January 1, 2012 to September 30, 2014, the highest incidence rates of the three categories of occupational injuries were among nurse assistants and nurses. Workplace

violence injury incidence rates increased from 2012 to 2014; most of these injuries were physical in nature and caused by patients. In over half of patient handling injuries, lifting equipment was not used (51%).

What are the implications for public health practice?

Injury prevention interventions mitigating high-risk aspects of nurse and nurse assistant duties are needed. Safety cultures that emphasize continuous improvement and support resources such as routine use of lifting equipment, as well as safe patient-handling training and lifting teams, might prevent many of the musculoskeletal disorders from patient handling and the associated costs of diagnosis, treatment, and disability.

TABLE. Incidence rates* of OSHA-recordable[†] slips, trips, and falls; patient handling and movement; and workplace violence injuries per 10,000 worker-months[§] by selected categories — Occupational Health Safety Network (OHSN), 112 U.S. health care facilities (HCFs) January 1, 2012–September 30, 2014

Category	No. of reporting HCFs	No. of injuries	Pooled mean incidence rate [¶]	Incidence rate percentiles		
				25%	50%	75%
Patient handling and movement injuries (Total)	95	4,674	11.33	5.22	12.07	19.76
Departments where patient handling injuries occur						
Inpatient adult wards	82	1,737	4.21	1.22	3.36	6.45
Inpatient adult critical care units	60	448	1.09	0.00	0.52	1.48
Outpatient acute care, emergency departments, urgent care	75	422	1.02	0.00	0.73	2.28
Activities causing the most patient handling injuries						
Positioning/repositioning in bed or stretcher	47	325	0.79	0.00	0.00	0.81
Transferring/lifting to/from bed or chair	45	290	0.70	0.00	0.00	0.78
Other	52	285	0.69	0.00	0.06	0.78
Lateral transfer of patient to/from bed	32	110	0.27	0.00	0.00	0.17
Use of lifting equipment among injured employees						
Unspecified	84	1,780	4.31	0.84	3.74	6.66
Using no equipment	89	2,387	5.79	2.13	6.05	9.62
Using equipment	71	507	1.23	0.00	0.01	2.04

Severity of patient handling injuries

OSHA-recordable, unspecified	73	3,711	8.99	0.00	10.57	19.51
OSHA-recordable, days away from work	16	205	0.50	0.00	0.00	0.00
OSHA-recordable, job transfer/restriction	18	550	1.33	0.00	0.00	0.00
OSHA-recordable, all other cases	21	208	0.50	0.00	0.00	0.00

Slips, trips, and falls injuries (Total) **99** **3,972** **9.63** **5.57** **8.21** **14.35**

Departments where slips, trips, and falls injuries occur

Inpatient adult wards	71	613	1.49	0.00	1.04	2.23
Non-patient care, maintenance	66	505	1.22	0.00	0.48	1.30
Inpatient operating rooms	61	382	0.93	0.00	0.55	1.45

Sources causing the most slips, trips, and falls injuries

Hazard not recorded or not specified	79	663	1.61	0.21	1.53	3.42
Floor contaminant	70	558	1.35	0.00	0.89	1.80
Contact with object	60	281	0.68	0.00	0.42	0.95
Steps, stairs, or handrail	39	196	0.47	0.00	0.00	0.25

Severity of slips, trips, and falls injuries

OSHA-recordable, unspecified	73	3016	7.31	0.00	6.59	13.96
OSHA-recordable, days away from work	22	210	0.51	0.00	0.00	0.00
OSHA-recordable, job transfer/restriction	19	489	1.19	0.00	0.00	0.00
OSHA-recordable, all other cases	24	257	0.62	0.00	0.00	0.00

Workplace violence injuries (Total) **85** **2,034** **4.93** **1.18** **3.32** **6.81**

Departments where workplace violence injuries occur

Inpatient adult wards	64	635	1.54	0.00	0.53	1.92
Outpatient acute care, emergency	58	372	0.90	0.00	0.21	1.53

departments, urgent care

Inpatient adult critical care units	41	154	0.37	0.00	0.00	0.42
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Common contributing factors among workplace violence injuries

Patient – contributing factor not specified	38	102	0.25	0.00	0.00	0.24
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Patient – mental or behavioral health problems	16	60	0.15	0.00	0.00	0.00
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Patient-cognitive dysfunction	18	31	0.08	0.00	0.00	0.00
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Patient-other**	14	29	0.07	0.00	0.00	0.00
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Severity of workplace violence injuries

OSHA-recordable, unspecified	61	1,726	4.18	0.00	2.27	6.27
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OSHA-recordable, days away from work	19	62	0.15	0.00	0.00	0.00
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OSHA-recordable, job transfer/restriction	18	102	0.25	0.00	0.00	0.00
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OSHA-recordable, all other cases	20	144	0.35	0.00	0.00	0.00
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Abbreviations: OSHA = Occupational Safety and Health Administration.

* Injury incidence rate = (number of injuries/total facility full-time employees) x 10,000.

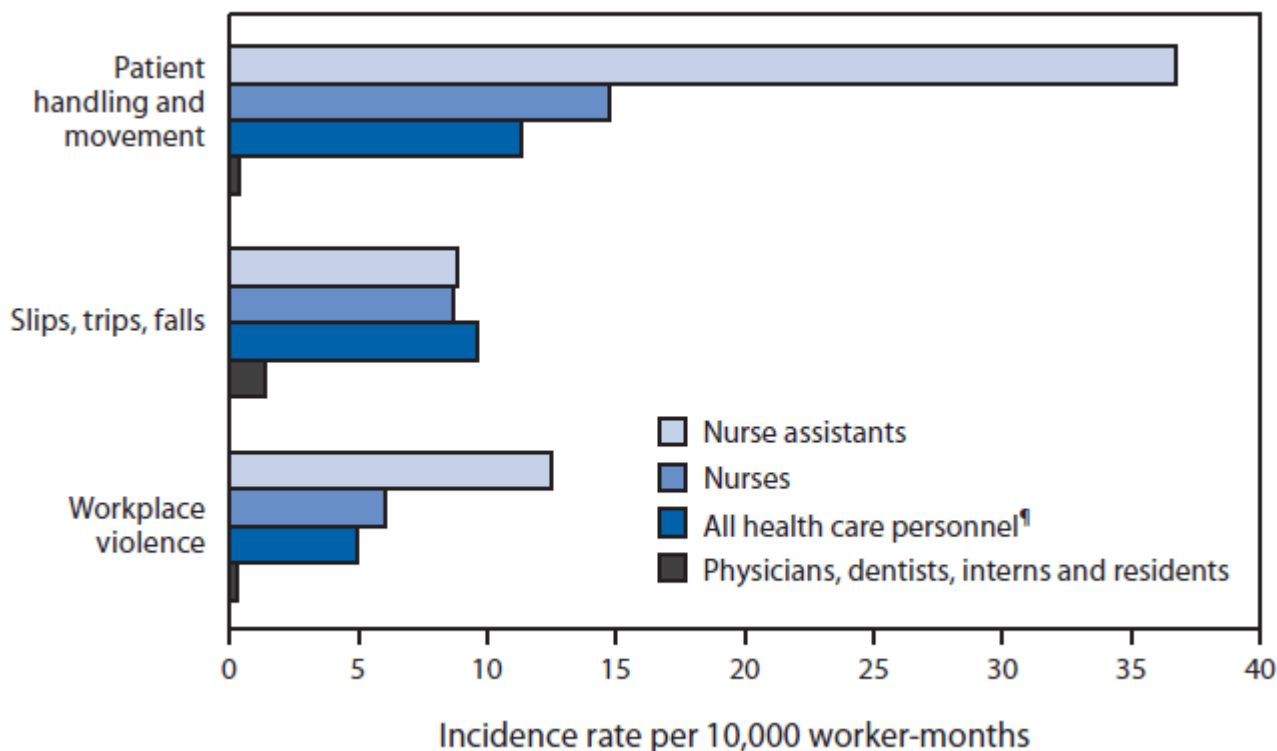
† OSHA-recordable injuries are defined as work-related injuries and illnesses that result in death, loss of consciousness, days away from work, restricted work activity or job transfer, medical treatment beyond first aid, or any substantial work related injury or illness that is diagnosed by a physician or other licensed health care professional.

§ Average worker-months = 125,041; worker-months are the number of full-time equivalent workers at a facility (or group of facilities) multiplied by the number of months worked within the reporting period. For example, a facility with 1,000 full-time equivalent workers has 12,000 worker-months in a 12 month reporting period.

¶ Pooled mean is the total number of incidents occurring at the facilities of interest within a given reporting period divided by the sum of the denominators for the same facilities over the same reporting period. A facility's denominator is the product of a facility's size (number of workers) and length of the facility's participation (in months) within the given reporting period.

** Patient-other = the workplace violence incident involved a patient, and the contributing factor to the incident was mentioned in the report, but it did not fit into one of OHSN's contributing factor categories.

FIGURE 1. Comparison of OSHA-recordable* injury incidence rates† per 10,000 worker-months§ by occupation groups among 112 U.S. health care facilities, January 1, 2012–September 30, 2014



Abbreviations: OSHA = Occupational Safety and Health Administration.

*OSHA-recordable injuries are defined as work-related injuries and illnesses that result in at least one of the following: death, loss of consciousness, days away from work, restricted work activity or job transfer, medical treatment beyond first aid, or a diagnosis by a physician or other licensed health care professional.

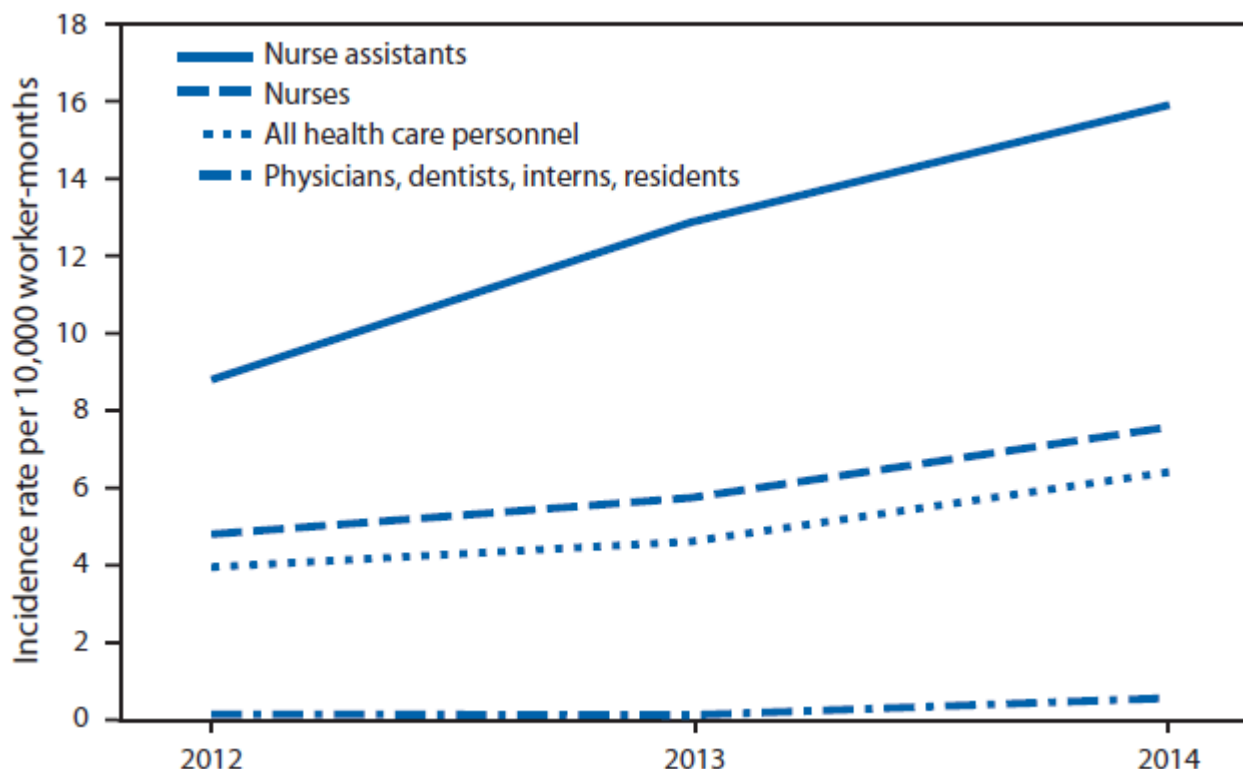
† Injury incidence rate = (number of injuries/total facility full-time employees) x 10,000.

§ Worker-months are the number of full-time equivalent workers at a facility (or group of facilities) multiplied by the number of months worked within the reporting period. For example, a facility with 1,000 full-time equivalent workers has 12,000 worker-months in a 12 month reporting period. Worker-months are specific for each occupation (e.g., only full-time equivalent nurses are used to calculate incidence rates for nurses).

¶ Nonpatient care staff is included in all health care personnel.

Alternate Text: The figure above is a bar chart showing OSHA-recordable injury incidence rates per 10,000 worker-months by occupation groups among 112 U.S. health care facilities during January 1, 2012-September 30, 2014.

FIGURE 2. Comparison of OSHA-recordable workplace violence injury incidence rates per 10,000 worker-months* by year among 112 U.S. health care facilities, January 1, 2012–September 30, 2014



Abbreviation: OSHA = Occupational Health and Safety Administration.

* Worker-months are the number of full-time equivalent workers at a facility (or group of facilities) multiplied by the number of months worked within the reporting period. For example, a facility with 1,000 full-time equivalent workers has 12,000 worker-months in a 12-month reporting period. Worker-months are specific for each occupation (e.g., only full-time equivalent nurses are used to calculate incidence rates for nurses).

Alternate Text: The figure above is a line chart showing OSHA-recordable workplace violence injury incidence rates per 10,000 worker-months by year among 112 U.S. health care facilities during January 1, 2012- September 30, 2014.

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International Journal of Industrial Ergonomics

Volume 65, May 2018, Pages 84-92

An analysis of injuries to front-end loader operators during ingress and egress

Mahiyar F. Nasarwanji  , Jonisha Pollard, William Porter Show more<https://doi.org/10.1016/j.ergon.2017.07.006>[Get rights and content](#)

Highlights

- Egress is inherently less safe than ingress for mobile mining equipment.
- Foot slips and missteps or loss of footing were the most common events that led to injuries.
- Contaminants on the equipment and ground conditions can pose a significant threat.
- Most injuries involved equipment with bottom rungs designed with flexible rails.
- Transitions from the ground, through the flexible-railed rung/s, to the first rigid-railed rung should be examined further.

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Abstract

Slips, trips, and falls from mobile mining equipment have been documented for decades. However, little research has been conducted to determine the events precipitating these incidents during ingress or egress. This study examined slips, trips, and falls sustained during

ingress or egress from front-end loaders to determine the frequencies of factors that may contribute to injuries. Non-fatal injuries, when getting on or off of front-end wheel loaders specifically, were identified, coded, and analyzed from the Mine Safety and Health Administration's accidents, injuries, and illnesses database. Overall trends, events that precipitated the injury, injuries sustained, contributing factors, location of the individual, and equipment characteristics were analyzed. More incidents occurred during egress (63%); and egress is believed to be more hazardous than ingress. Foot slips were the most common event that precipitated the incident and the leading cause of these was contaminants on the equipment. Misstep, loss of footing, and step on/in related incidents were more common during egress and are likely due to the operator's reduced visibility when descending a ladder facing the equipment, limiting their ability to detect hazards. Egress also makes an operator less capable of avoiding unsafe ground conditions as indicated by the significant number of step on/in injuries occurring on the ground during egress. Most of the front-end loaders associated with the incidents were found to have bottom rungs with flexible rails, which may also increase fall risk during egress due to inconsistent rung heights and lengthy transition areas from the ground, through the flexible-railed rungs, to the rungs with rigid rails. Recommendations are provided to reduce the risk for slips, trips, and falls from mobile mining equipment.

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Keywords

Fall; Slip; Ingress; Egress; Mobile equipment; Loader; Ladder

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Causal Factors of Collision Accidents Involving Underground Coal Mobile Equipment

James Noll, Cory DeGennaro, Jacob Carr, Joseph DuCarme and Gerald Homce

[+] Author Affiliations

Paper No. IMECE2017-70714, pp. V014T14A007; 10 pages

doi:10.1115/IMECE2017-70714

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ABSTRACT

abstract

From 2000–2015, thirty-two fatalities occurred due to collisions involving mobile equipment in underground coal mining in the United States. Studies have shown that proximity detection systems (PDS) can be a potential mitigation strategy for this type of accident. However, the effectiveness of this approach for mobile equipment has yet to be fully studied or validated. Researchers at the National Institute for Occupational Safety and Health (NIOSH) evaluated the causal factors of this type of fatality. Fatal accident reports from the Mine Safety and Health Administration (MSHA) accident report database provided details to analyze and determine causal factors and to evaluate whether a PDS may have been a preventive factor in each accident. NIOSH researchers concluded that PDSs used in underground coal mines on mobile equipment which are designed to detect a miner, provide warning to the operator and other miners, and automatically stop the machine before a miner is hit may have helped to prevent 25 of the 32 or 78% of the accidents.

Topics: [Collisions \(Physics\)](#) , [Accidents](#) , [Coal](#)

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Work-related Injuries Among Janitors

Work-related injuries among commercial janitors in Washington State, comparisons by gender

Journal of Safety Research, 2017

Caroline K. Smith, MPH, Naomi J. Anderson, MPH

Overview

Janitors are a large sector of employment in the United States and are considered high risk, low-wage workers.

This study describes the types of injuries, cost, and lost work time of janitors who filed a workers' compensation claim in Washington State for an injury that occurred during the years 2003 through 2013. Claims were included in the analysis if they were covered by the State Fund (SF), coded as compensable (required payment for more than just medical bills), and were identified through the Washington State Risk Classification system as working in janitorial services. In addition, we limited the study group to those in the National Occupational Research Agenda (NORA) Services Industry Sector.

Previous research has identified janitors as working in high hazard, low pay, and low status occupations. This is the first study to examine not only injuries, but also to compare injuries by gender and compare direct workers' compensation costs for janitorial service workers.

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Research for Safe Work

The SHARP Program at the Washington State Department of Labor & Industries partners with business and labor to develop sensible, effective solutions to identify and eliminate industry-wide hazards. Learn more at www.lni.wa.gov/Safety/Research/

Key Findings

- Women make up approximately one-third of the employed population of janitorial service workers, but they suffer twice the rate of time-loss injuries
 - Compared to men, women:
 - Were younger at time of injury
 - Had lower incomes
 - Had a significantly different distribution of injury types
- Factors associated with higher time-loss days included:
 - Age
 - Being married (men)
 - Injury type (for both genders)
- Factors associated with higher medical costs included:
 - Spanish language preference for communication (women)
 - Specific injury types
 - Number of days from injury to first time-loss payment
 - Whether or not the injured worker had a prior workers' compensation claim

Impact

Understanding differences in how safety information and training are provided to men, women, English speakers and non-English speakers is critical to understanding how we can reduce injuries among janitorial service workers. Improving the workers' compensation claim experience for non-English speaking workers should be a high priority. Providing linguistically and culturally appropriate training may go a long way towards reducing the burden of injuries among janitorial service workers.

Find the article here:

<https://doi.org/10.1016/j.jsr.2017.06.016>

Funding for this project was provided in part by a grant from the National Institute for Occupational Safety and Health (NIOSH)

75-28-2017
FY14-456 [05-2014]



Heat Exposure and Injury Risk

A Case-Crossover Study of Heat Exposure and Injury Risk in Outdoor Agricultural Workers

PLoS ONE, 2016

June T. Spector^{1,2}, DK Bonauto³, L Sheppard^{1,4}, T Busch-Isaksen¹, M Calkins¹, D Adams³, M Lieblich⁵, RA Fenske¹

Overview

It is well documented that heat exposure can lead to heat-related illness in outdoor workers. Some studies suggest a link between heat exposure and injury risk.

Agricultural orchard workers often perform physically intense harvest tasks in summer months when the weather is very warm. The purpose of this research was to investigate whether outdoor agricultural workers face an increased risk of traumatic injury on the job in hotter weather.

Using a case-crossover study design, worker exposure to heat and humidity (Humidex) on days when an injury occurred was compared to days without injury, based on work location.

This study is based on 12,213 Washington State Workers' Compensation traumatic injury claims from outdoor agricultural workers between 2000 and 2012.

Key Findings

- The risk of traumatic injury in outdoor agricultural workers increased with increasing heat exposure.
- A higher risk of injury associated with heat exposure was found for workers performing June – July cherry harvest duties than for the apple harvest from August – October.
- Cherry harvest injuries were largely due to falls, and more likely to involve multiple body parts and occur in workers with a shorter duration on the job, compared to all injuries.
- The increased injury risk dropped slightly for the highest Humidex category, and injuries occurring after 12:30 p.m. were less common on the hottest days, possibly indicating changes in work practices in extreme heat.

Impact

Agricultural workers face an increased risk of traumatic injury as their heat exposure increases. Heat exposure prevention efforts directed at workers doing physically intense jobs in warm weather should include training and information about injury prevention, in addition to heat-related illness. The expected increase in extreme heat events due to climate change, coupled with the relationship between traumatic injury and heat exposure, underlines the importance of continued efforts to control worker heat exposure.

Find the free article here:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164498>

Funding provided in part by the National Institute for Occupational Safety and Health (NIOSH), Grant # 5K01OH010672-02.

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Research for Safe Work

The SHARP Program at the Washington State Department of Labor & Industries partners with business and labor to develop sensible, effective solutions to identify and eliminate industry-wide hazards. Learn more at www.lni.wa.gov/Safety/Research/

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Temporary Workers at Risk

Factors Underlying Observed Injury Rate Differences between Temporary Workers and Permanent Peers

American Journal of Industrial Medicine, 2017

Michael Foley

Overview

Temporary work and other forms of non-standard work arrangements account for a growing share of jobs in the US economy. Temporary work has spread beyond its traditional base in the office and clerical sectors into higher hazard industries such as manufacturing and construction.

This study used Washington State workers' compensation claim data from 2011 to 2015. Time-loss claim rates for temporary workers were compared to those of workers in standard employment in similar occupations.

Interviews with injured temporary workers and permanent peer-workers, matched by industry, tenure, age, and gender, were conducted to explore the association of several potential risk factors with temporary employment. Interviews also characterized countermeasures such as pre-employment experience screening, general and specific safety training, supervision and task control.

Key Findings

- Temporary workers experience about twice the rate of time-loss claims per 100 full-time equivalent (FTE) workers compared to their permanent peer-workers.
 - The gap in claim rate between temporary workers and permanent peers is greater in high hazard sectors such as agriculture, manufacturing, and construction.
 - Analysis by work-related musculoskeletal disorders (WMSDs) and non-WMSDs indicated temporary workers had higher claim rates than their peers for both categories.
- Temporary workers reported similar or lower exposures as their permanent peer-workers to a range injury hazards.
 - Exposure to musculoskeletal hazards was the highest risk faced, followed by machinery and falls.
 - Exposure to fall hazards was significantly lower for temporary workers than for permanent workers.
- Temporary workers reported being less prepared to protect themselves from hazards by such measures as experience screening, training, and task control.

Impact

This study adds to the evidence that policies are needed to improve screening and training of temporary workers, discourage job-switching, improve workers' hazard awareness and protect workers' right to refuse unsafe conditions. The responsibilities of agencies and host employers for ensuring the safety of their temporary workers need clarification.

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Research for Safe Work

The SHARP Program at the Washington State Department of Labor & Industries partners with business and labor to develop sensible, effective solutions to identify and eliminate industry-wide hazards. Learn more at www.lni.wa.gov/Safety/Research/

Find the article here:

<http://onlinelibrary.wiley.com/doi/10.1002/ajim.22763/full>

Funding for this project was provided in part by a grant from the National Institute for Occupational Safety and Health (NIOSH).

75-27-2017
FY14-456 [05-2014]



Summary of Work-Related Injuries and Illnesses

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	0
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0	0
(K)	(L)

Injury and Illness Types

Total number of... (M)			
(1) Injury	0	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name _____

Street _____

City _____ State _____ Zip _____

Industry description (e.g., Manufacture of motor truck trailers)

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

OR North American Industrial Classification (NAICS), if known (e.g., 336212)

Employment information

Annual average number of employees _____

Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive

Phone

Title

Date

OSHA's Form 301 Injuries and Illnesses Incident Report

KEY- Pink=Data not to be collected or released by OSHA.
Blue=Data collected but not released under FOIA.
Green=Data fields to be collected and released by OSHA,
except if PII is recorded it will be withheld.

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

Information about the employee

1) Full Name _____

2) Street _____
City _____ State _____ Zip _____

3) Date of birth _____

4) Date hired _____

5) Male
 Female

Information about the physician or other health care professional

6) _____
Name of physician or other health care professional

7) If treatment was given away from the worksite, where was it given?
Facility _____
Street _____
City _____ State _____ Zip _____

8) Was employee treated in an emergency room?
 Yes
 No

9) Was employee hospitalized overnight as an in-patient?
 Yes
 No

Information about the case+R11:AB49G2R11:AB42

10) Case number from the Log _____ (Transfer the case number from the Log after you record the case.)

11) Date of injury or illness _____

12) Time employee began work _____ AM/PM

13) Time of event _____ AM/PM Check if time cannot be determined
*Please do not include any personally identifiable information (PII) pertaining to worker(s) involved in the incident (e.g., no names, phone numbers, or SSNs) in the following fields.

*14) **What was the employee doing just before the incident occurred?** Describe the activity, as well as the tools, equipment or material the employee was using. Be specific. Examples: "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

*15) **What happened?** Tell us how the injury occurred. Examples: "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

*16) **What was the injury or illness?** Tell us the part of the body that was affected and how it was affected. Examples: "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

*17) **What object or substance directly harmed the employee?** Examples: "concrete floor"; "chlorine"; "radial arm saw." If this question does not apply to the incident, leave it blank.

18) **If the employee died, when did death occur?** Date of death _____

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____

Title _____

Phone _____ Date _____

Public reporting burden for this collection of information is estimated to average 22 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a current valid OMB control number. If you have any comments about this estimate or any other aspects of this data collection, including suggestions for reducing this burden, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

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CONTROLLER_NAME	OPERATOR_ID
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Imerys S A	L17074
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Cemex S A	L18165
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Burgreen Contracting Company Inc	L38681
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Lafarge S A	0050815
Martin Marietta Materials Inc	L00208
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Walter Energy Incorporated	P01155
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Imerys S A	L00829
Holcim Ltd	0051046

Gary A Kolstad	L09717
Gary A Kolstad	L09717
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Gary A Kolstad	L09717
Drummond Company Inc	P17353
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Robert Fulton Heatherly	L14069
Timothy P Smith	0050289
Doris Haley	0050343
Ronald S Bryant	P22581
Legacy Vulcan Corp (Form:Vulcan Materials Co)	L16168
Vulcan Materials Company	L16168
Rogers Group Inc	L06514
S C R-Sibelco Nv	0084304
Michael R Boyce	0050117
Lafarge S A	0051542
Five J's LLC	0050182
Twin Pines LLC	0116645
TCW Energy Fund XIV-A, L.P.	P19184
TCW Energy Fund XIV-A, L.P.	P19184
Rogers Group Inc	L06514
Ready Mix USA Inc	0050317
Ronald S Bryant	P22581
Salt River Pima-Maricopa Indian Community	L09362
Salt River Pima-Maricopa Indian Community	L09362
Salt River Pima-Maricopa Indian Community	L09362
Salt River Pima-Maricopa Indian Community	L09362
Freeport-McMoRan Inc	L12058
Freeport-McMoRan Inc	L12058
Freeport-McMoRan Inc	L12058
Freeport-McMoRan Inc	L12058
Freeport-McMoRan Inc	L12058

Phelps Dodge Corp	L12058
Freeport-McMoRan Inc	L12058
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Freeport-McMoRan Inc	L12058
Freeport-McMoRan Inc	L12058

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Imerys Pigments LLC		2.20002E+11
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Imerys Pigments LLC		2.2008E+11
Imerys Carbonates LLC		2.20081E+11
Imerys Carbonates LLC		2.20111E+11
Imerys Carbonates LLC		2.20154E+11
Imerys Carbonates USA, Inc.		2.20182E+11
Cemex Inc		2.20063E+11
National Cement Co., of AL., Inc.		2.20021E+11
National Cement Co., of AL., Inc.		2.201E+11
Big River Industries Inc		2.20022E+11
Lhoist North America of Alabama, LLC		2.20041E+11
Lhoist North America of Alabama, LLC		2.2014E+11
Lhoist North America of Alabama, LLC		2.20182E+11
Lehigh Cement Company LLC		2.20171E+11
Lehigh Portland Cement Company		2.2002E+11
Lehigh Cement Company LLC		2.20044E+11
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Lehigh Cement Company LLC		2.20143E+11
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Lafarge Building Materials Incorporated	L35	2.20013E+11
Lafarge Building Materials Incorporated		2.20063E+11
Lafarge Building Materials Incorporated		2.20103E+11
Martin Marietta Aggregates		2.2001E+11
Chevron Mining Inc		2.2002E+11
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Chevron Mining Inc		2.20043E+11
Chevron Mining Inc		2.20051E+11
Chevron Mining Inc		2.20061E+11
Chevron Mining Inc		2.20062E+11
Chevron Mining Inc		2.2008E+11
Chevron Mining Inc		2.20101E+11
Chevron Mining Inc		2.2011E+11
Jim Walter Resources Inc		2.20121E+11
Chevron Mining Inc		2.20073E+11
Chevron Mining Inc		2.20013E+11
U.S. Steel Mining Company, LLC		2.20002E+11
U.S. Steel Mining Company, LLC		2.20012E+11
U.S. Steel Mining Company, LLC		2.20013E+11

Oak Grove Resources LLC		2.20032E+11
Oak Grove Resources LLC		2.20083E+11
Oak Grove Resources LLC		2.20102E+11
Oak Grove Resources LLC		2.20112E+11
Oak Grove Resources LLC		2.2016E+11
Oak Grove Resources LLC		2.20163E+11
Oak Grove Resources LLC		2.20163E+11
Oak Grove Resources LLC		2.20172E+11
Oak Grove Resources LLC		2.20181E+11
Riverside Refractories Inc	A419	2.20022E+11
Jim Walter Resources Inc		2.20012E+11
Jim Walter Resources Inc		2.20003E+11
Jim Walter Resources Inc		2.2009E+11
Jim Walter Resources Inc		2.20102E+11
Jim Walter Resources Inc		2.20102E+11
Jim Walter Resources Inc		2.20123E+11
Jim Walter Resources Inc		2.20123E+11
Jim Walter Resources Inc		2.20133E+11
Jim Walter Resources Inc		2.20131E+11
Jim Walter Resources Inc		2.20153E+11
Jim Walter Resources Inc		2.20052E+11
Lhoist North America of Alabama, LLC		2.20151E+11
Drummond Company, Inc.		2.20002E+11
Jim Walter Resources Inc		2.20013E+11
Jim Walter Resources Inc		2.20033E+11
Jim Walter Resources Inc		2.20041E+11
Jim Walter Resources Inc		2.20051E+11
Jim Walter Resources Inc		2.20053E+11
Black Warrior Minerals Inc	5DA	2.20142E+11
Jim Walter Resources Inc	2IS	2.20123E+11
Jim Walter Resources Inc	B08	2.20062E+11
Jim Walter Resources Inc		2.20002E+11
Jim Walter Resources Inc		2.20003E+11
Jim Walter Resources Inc		2.20014E+11
Jim Walter Resources Inc		2.20023E+11
Jim Walter Resources Inc		2.20051E+11
Jim Walter Resources Inc		2.20063E+11
Jim Walter Resources Inc		2.20082E+11
Jim Walter Resources Inc		2.20101E+11
Jim Walter Resources Inc		2.20104E+11
Jim Walter Resources Inc		2.20132E+11
Jim Walter Resources Inc		2.20143E+11
Jim Walter Resources Inc		2.20161E+11
Warrior Met Coal Mining, LLC		2.20163E+11
Warrior Met Coal Mining, LLC		2.20173E+11
Mullite Company Of America	S6B	2.20173E+11
Holcim (US) Incorporated		2.2006E+11

CARBO Ceramics Inc	BCH	2.20143E+11
CARBO Ceramics Inc		2.20011E+11
CARBO Ceramics Inc		2.20053E+11
CARBO Ceramics Inc		2.20073E+11
Drummond Company Inc		2.20002E+11
Drummond Company Inc		2.20003E+11
Drummond Company Inc		2.20013E+11
Drummond Company Inc		2.20023E+11
Drummond Company Inc		2.2003E+11
Drummond Company Inc		2.20041E+11
Drummond Company Inc		2.20041E+11
Drummond Company Inc		2.20051E+11
Drummond Company Inc		2.20061E+11
Drummond Company Inc		2.20063E+11
Drummond Company Inc		2.20071E+11
Drummond Company Inc		2.20073E+11
Drummond Company Inc		2.20074E+11
Drummond Company Inc		2.20082E+11
Drummond Company Inc		2.20121E+11
Drummond Company Inc		2.20172E+11
Drummond Company Inc		2.20181E+11
Blount Springs Materials Co Inc	C062	2.20081E+11
A2M, LLC		2.20032E+11
Haley Bros. Coal, Inc.		2.20041E+11
Warrior Investment Company Inc		2.20022E+11
Vulcan Construction Materials, LLC		2.20041E+11
Vulcan Construction Materials, LLC		2.20151E+11
Rogers Group, Inc		2.20103E+11
Unimin Lime LLC	9NU	2.20091E+11
Peak Lime, Inc.		2.20021E+11
Birmingham Aggregates LLC	H601	2.20061E+11
Cherokee Mining LLC		2.20063E+11
Shannon, LLC		2.20111E+11
National Coal of Alabama Inc		2.2013E+11
National Coal of Alabama Inc		2.20131E+11
Rogers Group Inc.		2.20063E+11
Couch Ready Mix USA Aggregates Division		2.20072E+11
Warrior Investments Company Inc		2.20153E+11
Phoenix Cement		2.20043E+11
Phoenix Cement		2.20051E+11
Phoenix Cement		2.20053E+11
Phoenix Cement		2.20064E+11
Freeport-McMoRan Morenci Inc.	1PL	2.20112E+11
Freeport-McMoRan Morenci Inc.	AB8	2.20082E+11
Freeport-McMoRan Morenci Inc.	F325	2.20173E+11
Freeport-McMoRan Morenci Inc.	M808	2.20082E+11
Freeport-McMoRan Morenci Inc.	V3H	2.20082E+11

Freeport-McMoRan Morenci Inc.	W27	2.20003E+11
Freeport-McMoRan Morenci Inc.	Y12	2.20121E+11
Freeport-McMoRan Morenci Inc.	ZP4	2.20171E+11
Freeport-McMoRan Morenci Inc.		2.20042E+11
Freeport-McMoRan Morenci Inc.		2.20062E+11
Freeport-McMoRan Morenci Inc.		2.20064E+11
Freeport-McMoRan Morenci Inc.		2.2007E+11
Freeport-McMoRan Morenci Inc.		2.20071E+11
Freeport-McMoRan Morenci Inc.		2.20083E+11

SUBUNIT_CD	SUBUNIT	ACCIDENT_DT	CAL_YR	CAL_QTR
30	MILL OPERATION/PREPARATION PLANT	7/26/2003	2003	3
30	MILL OPERATION/PREPARATION PLANT	4/26/2000	2000	2
30	MILL OPERATION/PREPARATION PLANT	1/7/2004	2004	1
30	MILL OPERATION/PREPARATION PLANT	1/8/2005	2005	1
30	MILL OPERATION/PREPARATION PLANT	1/24/2008	2008	1
30	MILL OPERATION/PREPARATION PLANT	2/20/2008	2008	1
30	MILL OPERATION/PREPARATION PLANT	2/21/2011	2011	1
30	MILL OPERATION/PREPARATION PLANT	12/14/2015	2015	4
30	MILL OPERATION/PREPARATION PLANT	7/17/2018	2018	3
30	MILL OPERATION/PREPARATION PLANT	9/28/2006	2006	3
30	MILL OPERATION/PREPARATION PLANT	2/12/2002	2002	1
30	MILL OPERATION/PREPARATION PLANT	1/15/2010	2010	1
30	MILL OPERATION/PREPARATION PLANT	6/8/2002	2002	2
30	MILL OPERATION/PREPARATION PLANT	7/15/2003	2003	3
30	MILL OPERATION/PREPARATION PLANT	12/27/2013	2013	4
30	MILL OPERATION/PREPARATION PLANT	7/22/2018	2018	3
3	STRIP, QUARY, OPEN PIT	2/24/2017	2017	1
30	MILL OPERATION/PREPARATION PLANT	1/30/2002	2002	1
30	MILL OPERATION/PREPARATION PLANT	12/15/2004	2004	4
30	MILL OPERATION/PREPARATION PLANT	1/12/2005	2005	1
30	MILL OPERATION/PREPARATION PLANT	1/4/2009	2009	1
30	MILL OPERATION/PREPARATION PLANT	10/2/2014	2014	4
30	MILL OPERATION/PREPARATION PLANT	6/19/2015	2015	2
3	STRIP, QUARY, OPEN PIT	1/10/2004	2004	1
30	MILL OPERATION/PREPARATION PLANT	6/28/2011	2011	2
3	STRIP, QUARY, OPEN PIT	5/22/2001	2001	2
30	MILL OPERATION/PREPARATION PLANT	9/25/2001	2001	3
30	MILL OPERATION/PREPARATION PLANT	11/25/2006	2006	4
30	MILL OPERATION/PREPARATION PLANT	8/28/2010	2010	3
30	MILL OPERATION/PREPARATION PLANT	1/22/2001	2001	1
1	UNDERGROUND	2/5/2002	2002	1
1	UNDERGROUND	9/19/2002	2002	3
1	UNDERGROUND	7/10/2004	2004	3
1	UNDERGROUND	10/28/2004	2004	4
1	UNDERGROUND	5/12/2005	2005	2
1	UNDERGROUND	5/6/2006	2006	2
1	UNDERGROUND	6/15/2006	2006	2
1	UNDERGROUND	10/19/2007	2007	4
1	UNDERGROUND	3/16/2010	2010	1
1	UNDERGROUND	6/3/2010	2010	2
1	UNDERGROUND	5/11/2012	2012	2
2	SURFACE AT UNDERGROUND	10/6/2007	2007	4
30	MILL OPERATION/PREPARATION PLANT	11/23/2001	2001	4
1	UNDERGROUND	7/29/2000	2000	3
1	UNDERGROUND	6/21/2001	2001	2
1	UNDERGROUND	10/31/2001	2001	4

1 UNDERGROUND	8/13/2003	2003	3
1 UNDERGROUND	11/20/2008	2008	4
1 UNDERGROUND	8/14/2010	2010	3
1 UNDERGROUND	7/31/2011	2011	3
1 UNDERGROUND	1/27/2016	2016	1
1 UNDERGROUND	9/27/2016	2016	3
1 UNDERGROUND	10/17/2016	2016	4
1 UNDERGROUND	5/30/2017	2017	2
1 UNDERGROUND	5/26/2018	2018	2
3 STRIP, QUARY, OPEN PIT	6/28/2002	2002	2
1 UNDERGROUND	3/24/2000	2000	1
1 UNDERGROUND	9/13/2000	2000	3
1 UNDERGROUND	1/18/2008	2008	1
1 UNDERGROUND	1/4/2010	2010	1
1 UNDERGROUND	7/17/2010	2010	3
1 UNDERGROUND	10/24/2012	2012	4
1 UNDERGROUND	12/6/2012	2012	4
1 UNDERGROUND	1/21/2013	2013	1
1 UNDERGROUND	3/7/2013	2013	1
1 UNDERGROUND	11/29/2015	2015	4
2 SURFACE AT UNDERGROUND	7/30/2005	2005	3
30 MILL OPERATION/PREPARATION PLANT	3/24/2015	2015	1
3 STRIP, QUARY, OPEN PIT	6/14/2000	2000	2
1 UNDERGROUND	10/31/2001	2001	4
1 UNDERGROUND	11/7/2003	2003	4
1 UNDERGROUND	3/18/2004	2004	1
1 UNDERGROUND	5/8/2005	2005	2
1 UNDERGROUND	9/9/2005	2005	3
3 STRIP, QUARY, OPEN PIT	5/8/2014	2014	2
1 UNDERGROUND	10/15/2012	2012	4
1 UNDERGROUND	7/22/2006	2006	3
1 UNDERGROUND	8/12/2000	2000	3
1 UNDERGROUND	9/25/2000	2000	3
1 UNDERGROUND	10/26/2001	2001	4
1 UNDERGROUND	9/5/2002	2002	3
1 UNDERGROUND	5/20/2005	2005	2
1 UNDERGROUND	10/22/2006	2006	4
1 UNDERGROUND	5/27/2008	2008	2
1 UNDERGROUND	1/28/2010	2010	1
1 UNDERGROUND	12/10/2010	2010	4
1 UNDERGROUND	7/7/2013	2013	3
1 UNDERGROUND	12/6/2014	2014	4
1 UNDERGROUND	3/30/2016	2016	1
1 UNDERGROUND	11/1/2016	2016	4
1 UNDERGROUND	9/6/2017	2017	3
3 STRIP, QUARY, OPEN PIT	11/22/2017	2017	4
30 MILL OPERATION/PREPARATION PLANT	12/10/2005	2005	4

30 MILL OPERATION/PREPARATION PLANT	9/23/2014	2014	3
30 MILL OPERATION/PREPARATION PLANT	2/22/2000	2000	1
30 MILL OPERATION/PREPARATION PLANT	10/17/2005	2005	4
30 MILL OPERATION/PREPARATION PLANT	9/26/2007	2007	3
1 UNDERGROUND	7/6/2000	2000	3
1 UNDERGROUND	10/19/2000	2000	4
1 UNDERGROUND	9/10/2001	2001	3
1 UNDERGROUND	10/28/2002	2002	4
1 UNDERGROUND	1/9/2003	2003	1
1 UNDERGROUND	2/16/2004	2004	1
1 UNDERGROUND	2/26/2004	2004	1
1 UNDERGROUND	1/14/2005	2005	1
1 UNDERGROUND	5/2/2006	2006	2
1 UNDERGROUND	11/3/2006	2006	4
1 UNDERGROUND	4/1/2007	2007	2
1 UNDERGROUND	10/11/2007	2007	4
1 UNDERGROUND	12/15/2007	2007	4
1 UNDERGROUND	6/23/2008	2008	2
1 UNDERGROUND	4/17/2012	2012	2
1 UNDERGROUND	7/10/2017	2017	3
1 UNDERGROUND	2/12/2018	2018	1
3 STRIP, QUARY, OPEN PIT	2/11/2008	2008	1
1 UNDERGROUND	5/27/2003	2003	2
3 STRIP, QUARY, OPEN PIT	5/17/2004	2004	2
30 MILL OPERATION/PREPARATION PLANT	7/29/2002	2002	3
3 STRIP, QUARY, OPEN PIT	3/28/2004	2004	1
30 MILL OPERATION/PREPARATION PLANT	3/9/2015	2015	1
3 STRIP, QUARY, OPEN PIT	9/30/2010	2010	3
30 MILL OPERATION/PREPARATION PLANT	4/21/2009	2009	2
30 MILL OPERATION/PREPARATION PLANT	2/25/2002	2002	1
3 STRIP, QUARY, OPEN PIT	12/12/2005	2005	4
3 STRIP, QUARY, OPEN PIT	10/12/2006	2006	4
3 STRIP, QUARY, OPEN PIT	4/22/2011	2011	2
3 STRIP, QUARY, OPEN PIT	2/9/2013	2013	1
3 STRIP, QUARY, OPEN PIT	2/26/2013	2013	1
3 STRIP, QUARY, OPEN PIT	12/5/2006	2006	4
6 DREDGE	7/12/2007	2007	3
1 UNDERGROUND	10/3/2015	2015	4
30 MILL OPERATION/PREPARATION PLANT	10/14/2004	2004	4
30 MILL OPERATION/PREPARATION PLANT	4/20/2005	2005	2
30 MILL OPERATION/PREPARATION PLANT	7/10/2005	2005	3
30 MILL OPERATION/PREPARATION PLANT	12/18/2006	2006	4
30 MILL OPERATION/PREPARATION PLANT	6/20/2011	2011	2
3 STRIP, QUARY, OPEN PIT	7/18/2008	2008	3
3 STRIP, QUARY, OPEN PIT	9/7/2017	2017	3
30 MILL OPERATION/PREPARATION PLANT	6/8/2008	2008	2
30 MILL OPERATION/PREPARATION PLANT	9/1/2008	2008	3

30 MILL OPERATION/PREPARATION PLANT	8/17/2000	2000	3
3 STRIP, QUARY, OPEN PIT	5/11/2012	2012	2
3 STRIP, QUARY, OPEN PIT	2/18/2017	2017	1
3 STRIP, QUARY, OPEN PIT	11/19/2003	2003	4
3 STRIP, QUARY, OPEN PIT	6/19/2006	2006	2
3 STRIP, QUARY, OPEN PIT	12/6/2006	2006	4
3 STRIP, QUARY, OPEN PIT	1/16/2007	2007	1
3 STRIP, QUARY, OPEN PIT	4/11/2007	2007	2
3 STRIP, QUARY, OPEN PIT	9/18/2008	2008	3

FISCAL_YR	FISCAL_QTR	ACCIDENT_TIME	DEGREE_INJURY_CD
2003	4	2330	06
2000	3	1130	05
2004	2	930	?
2005	2	1900	05
2008	2	1000	05
2008	2	1500	05
2011	2	930	05
2016	1	930	05
2018	4	1500	06
2006	4	1130	06
2002	2	1550	03
2010	2	615	05
2002	3	1850	05
2003	4	1545	03
2014	1	1300	05
2018	4	2330	03
2017	2	530	06
2002	2	1030	05
2005	1	1340	00
2005	2	1315	06
2009	2	830	04
2015	1	755	02
2015	3	930	07
2004	2	1000	03
2011	3	130	05
2001	3	9999	10
2001	4	1415	06
2007	1	1200	05
2010	4	715	05
2001	2	530	06
2002	2	115	00
2002	4	530	06
2004	4	130	00
2005	1	10	00
2005	3	200	00
2006	3	1500	00
2006	3	1645	03
2008	1	100	03
2010	2	2324	03
2010	3	1800	03
2012	3	2250	03
2008	1	1400	00
2002	1	9999	07
2000	4	900	03
2001	3	1305	03
2002	1	930	03

2003	4	2045 03
2009	1	512 05
2010	4	1610 03
2011	4	600 03
2016	2	130 06
2016	4	400 03
2017	1	945 05
2017	3	300 03
2018	3	1115 04
2002	3	605 02
2000	2	130 03
2000	4	1200 00
2008	2	1000 03
2010	2	130 03
2010	4	1830 00
2013	1	1340 06
2013	1	140 06
2013	2	1245 03
2013	2	600 03
2016	1	1700 03
2005	4	1120 06
2015	2	1635 04
2000	3	1900 03
2002	1	230 07
2004	1	725 03
2004	2	1027 03
2005	3	1120 03
2005	4	415 03
2014	3	700 05
2013	1	1450 06
2006	4	1915 00
2000	4	1130 03
2000	4	930 06
2002	1	1630 03
2002	4	1600 03
2005	3	1300 03
2007	1	2100 06
2008	3	1300 03
2010	2	1745 03
2011	1	2300 03
2013	4	140 06
2015	1	1315 03
2016	2	2355 03
2017	1	421 03
2017	4	1215 06
2018	1	1230 04
2006	1	1200 00

2014	4	1030 06
2000	2	2100 05
2006	1	2045 06
2007	4	1500 06
2000	4	1000 03
2001	1	1800 03
2001	4	550 06
2003	1	2230 03
2003	2	315 03
2004	2	830 03
2004	2	430 03
2005	2	430 03
2006	3	1900 03
2007	1	900 03
2007	3	1600 06
2008	1	400 03
2008	1	1700 03
2008	3	1052 03
2012	3	30 06
2017	4	1905 00
2018	2	1030 03
2008	2	1525 03
2003	3	600 00
2004	3	715 03
2002	4	9999 03
2004	2	615 05
2015	2	1520 04
2010	4	9999 06
2009	3	700 03
2002	2	1030 03
2006	1	1030 06
2007	1	2110 03
2011	3	2045 03
2013	2	800 06
2013	2	1430 06
2007	1	745 02
2007	4	9999 04
2016	1	20 03
2005	1	930 06
2005	3	1749 06
2005	4	1000 05
2007	1	700 05
2011	3	2145 06
2008	4	1430 06
2017	4	930 05
2008	3	700 04
2008	4	1003 01

2000	4	930 05
2012	3	800 06
2017	2	1515 05
2004	1	1120 05
2006	3	1830 06
2007	1	640 03
2007	2	2330 06
2007	3	1015 06
2008	4	1200 04

DEGREE_INJURY	FIPS_STATE_CD	UG_LOCATION_CD
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
NO VALUE FOUND		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
DAYS AWAY FROM WORK ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS AWAY FROM WORK ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS AWAY FROM WORK ONLY		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
ACCIDENT ONLY		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
DYS AWY FRM WRK & RESTRCTD ACT		1 ?
PERM TOT OR PERM PRTL DISABLTY		1 ?
OCCUPATNAL ILLNESS NOT DEG 1-6		1 ?
DAYS AWAY FROM WORK ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
ALL OTHER CASES (INCL 1ST AID)		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
DAYS RESTRICTED ACTIVITY ONLY		1 ?
NO DYS AWY FRM WRK,NO RSTR ACT		1 ?
ACCIDENT ONLY		1 04
NO DYS AWY FRM WRK,NO RSTR ACT		1 99
ACCIDENT ONLY		1 04
ACCIDENT ONLY		1 04
ACCIDENT ONLY		1 01
ACCIDENT ONLY		1 04
DAYS AWAY FROM WORK ONLY		1 02
DAYS AWAY FROM WORK ONLY		1 04
DAYS AWAY FROM WORK ONLY		1 04
DAYS AWAY FROM WORK ONLY		1 04
DAYS AWAY FROM WORK ONLY		1 04
ACCIDENT ONLY		1 ?
OCCUPATNAL ILLNESS NOT DEG 1-6		1 ?
DAYS AWAY FROM WORK ONLY		1 02
DAYS AWAY FROM WORK ONLY		1 04
DAYS AWAY FROM WORK ONLY		1 03

DAYS AWAY FROM WORK ONLY	1 02
DAYS RESTRICTED ACTIVITY ONLY	1 04
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 06
NO DYS AWY FRM WRK,NO RSTR ACT	1 03
DAYS AWAY FROM WORK ONLY	1 03
DAYS RESTRICTED ACTIVITY ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 06
DYS AWY FRM WRK & RESTRCTD ACT	1 03
PERM TOT OR PERM PRTL DISABLTY	1 ?
DAYS AWAY FROM WORK ONLY	1 99
ACCIDENT ONLY	1 03
DAYS AWAY FROM WORK ONLY	1 03
DAYS AWAY FROM WORK ONLY	1 03
ACCIDENT ONLY	1 06
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
DYS AWY FRM WRK & RESTRCTD ACT	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
OCCUPATNAL ILLNESS NOT DEG 1-6	1 99
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS RESTRICTED ACTIVITY ONLY	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
ACCIDENT ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 99
NO DYS AWY FRM WRK,NO RSTR ACT	1 98
DAYS AWAY FROM WORK ONLY	1 98
DAYS AWAY FROM WORK ONLY	1 99
DAYS AWAY FROM WORK ONLY	1 06
NO DYS AWY FRM WRK,NO RSTR ACT	1 03
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 03
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
DYS AWY FRM WRK & RESTRCTD ACT	1 ?
ACCIDENT ONLY	1 ?

NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
DAYS RESTRICTED ACTIVITY ONLY	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
DAYS AWAY FROM WORK ONLY	1 98
DAYS AWAY FROM WORK ONLY	1 03
NO DYS AWY FRM WRK,NO RSTR ACT	1 03
DAYS AWAY FROM WORK ONLY	1 98
DAYS AWAY FROM WORK ONLY	1 03
DAYS AWAY FROM WORK ONLY	1 03
DAYS AWAY FROM WORK ONLY	1 98
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 03
NO DYS AWY FRM WRK,NO RSTR ACT	1 06
DAYS AWAY FROM WORK ONLY	1 05
DAYS AWAY FROM WORK ONLY	1 06
DAYS AWAY FROM WORK ONLY	1 03
NO DYS AWY FRM WRK,NO RSTR ACT	1 01
ACCIDENT ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 01
DAYS AWAY FROM WORK ONLY	1 ?
ACCIDENT ONLY	1 04
DAYS AWAY FROM WORK ONLY	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
DAYS RESTRICTED ACTIVITY ONLY	1 ?
DYS AWY FRM WRK & RESTRCTD ACT	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
DAYS AWAY FROM WORK ONLY	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
NO DYS AWY FRM WRK,NO RSTR ACT	1 ?
PERM TOT OR PERM PRTL DISABLTY	1 ?
DYS AWY FRM WRK & RESTRCTD ACT	1 ?
DAYS AWAY FROM WORK ONLY	1 03
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
DAYS RESTRICTED ACTIVITY ONLY	4 ?
DAYS RESTRICTED ACTIVITY ONLY	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
DAYS RESTRICTED ACTIVITY ONLY	4 ?
DYS AWY FRM WRK & RESTRCTD ACT	4 ?
FATALITY	4 ?

DAYS RESTRICTED ACTIVITY ONLY	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
DAYS RESTRICTED ACTIVITY ONLY	4 ?
DAYS RESTRICTED ACTIVITY ONLY	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
DAYS AWAY FROM WORK ONLY	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
NO DYS AWY FRM WRK,NO RSTR ACT	4 ?
DYS AWY FRM WRK & RESTRCTD ACT	4 ?

SLOPE/INCLINED SHAFT	?	NO VALUE FOUND
INTERSECTION	01	Longwall
LAST OPEN CROSSCUT	05	Continuous Mining
LAST OPEN CROSSCUT	05	Continuous Mining
FACE	05	Continuous Mining
FACE	05	Continuous Mining
LAST OPEN CROSSCUT	01	Longwall
LAST OPEN CROSSCUT	01	Longwall
FACE	01	Longwall
NO VALUE FOUND	?	NO VALUE FOUND
NOT MARKED	?	NO VALUE FOUND
FACE	01	Longwall
FACE	01	Longwall
FACE	01	Longwall
LAST OPEN CROSSCUT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND
NOT MARKED	?	NO VALUE FOUND
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	05	Continuous Mining
VERTICAL SHAFT	05	Continuous Mining
NO VALUE FOUND	?	NO VALUE FOUND
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	08	Other
NOT MARKED	01	Longwall
OTHER	05	Continuous Mining
OTHER	?	NO VALUE FOUND
NOT MARKED	01	Longwall
LAST OPEN CROSSCUT	?	NO VALUE FOUND
FACE	01	Longwall
LAST OPEN CROSSCUT	05	Continuous Mining
LAST OPEN CROSSCUT	01	Longwall
FACE	01	Longwall
VERTICAL SHAFT	05	Continuous Mining
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	01	Longwall
VERTICAL SHAFT	05	Continuous Mining
VERTICAL SHAFT	05	Continuous Mining
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND

NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
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NO VALUE FOUND

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NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND
NO VALUE FOUND

MINING_EQUIP_CD	MINING_EQUIP
05	Bench grinder, Drill press, Band/Table saw, Sandblaster
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
28	Hand tools (not powered)
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
71	Machine, NEC - Wheelbarrow, Well drilling Rig, Post hole auger
?	NO VALUE FOUND
08	Bulldozer, Dozer, Crawler tractor, Push cat
10	Chute
67	Trucks, Service truck, Utility truck, Pickup, Water truck, Fuel truck
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
40	Milling machinery, Block press, Ballast machine
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
29	Hand tools (powered)
44	Ore haulage trucks - off highway trucks
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
44	Ore haulage trucks - off highway trucks
?	NO VALUE FOUND
15	Crusher, Breaker, Mills (ball and rod), Feeder breaker
?	NO VALUE FOUND
?	NO VALUE FOUND
19	Elevator, Skip, Cage, Buckets, Mancage, Slope car
34	Locomotive, (motor) - rail-mounted (Battery, Steam, Electric, Air)
?	NO VALUE FOUND
?	NO VALUE FOUND
61	Shuttle car, Buggy, Ram car, Young buggy, Teletram car
?	NO VALUE FOUND
37	Mancar, Mantrip, Personnel carrier, Porta bus, Jeep, Jitney, ATV
19	Elevator, Skip, Cage, Buckets, Mancage, Slope car
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND

?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
54	Rock or roof bolting machine, Pinning machine, Truss bolter
54	Rock or roof bolting machine, Pinning machine, Truss bolter
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
13	Conveyor, Belt feeder, Stage loader, Hopper shaker, Belt structure
?	NO VALUE FOUND
?	NO VALUE FOUND
33	Load-haul-dump, Scoop tram, Transloader, Unitrac, S&S Battery
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
35	Longwall machine
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
29	Hand tools (powered)
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
28	Hand tools (not powered)
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
19	Elevator, Skip, Cage, Buckets, Mancage, Slope car
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
61	Shuttle car, Buggy, Ram car, Young buggy, Teletram car
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
28	Hand tools (not powered)
36	Longwall subparts, Duke, Dowdy jack, Ramjack, Longwall shield
?	NO VALUE FOUND
33	Load-haul-dump, Scoop tram, Transloader, Unitrac, S&S Battery
?	NO VALUE FOUND
09	Carriage-mounted drills, Rail, Rubber-tired, Jumbo, Air-track drill
?	NO VALUE FOUND

?	NO VALUE FOUND
28	Hand tools (not powered)
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
33	Load-haul-dump, Scoop tram, Transloader, Unitrac, S&S Battery
54	Rock or roof bolting machine, Pinning machine, Truss bolter
?	NO VALUE FOUND
?	NO VALUE FOUND
48	Pump, Slurry pump, Sump pump
?	NO VALUE FOUND
?	NO VALUE FOUND
61	Shuttle car, Buggy, Ram car, Young buggy, Teletram car
33	Load-haul-dump, Scoop tram, Transloader, Unitrac, S&S Battery
?	NO VALUE FOUND
35	Longwall machine
?	NO VALUE FOUND
12	Continuous miner, Tunnel borer, Road header
?	NO VALUE FOUND
10	Chute
?	NO VALUE FOUND
60	Shovel, Power shovel, Backhoe, Trackhoe, Dragline - Big Muskie
?	NO VALUE FOUND
44	Ore haulage trucks - off highway trucks
?	NO VALUE FOUND
29	Hand tools (powered)
?	NO VALUE FOUND
?	NO VALUE FOUND
15	Crusher, Breaker, Mills (ball and rod), Feeder breaker
08	Bulldozer, Dozer, Crawler tractor, Push cat
?	NO VALUE FOUND
28	Hand tools (not powered)
?	NO VALUE FOUND
14	Crane, Cherry picker, Lift basket, Scissor truck, Boom truck
28	Hand tools (not powered)
?	NO VALUE FOUND
46	Packaging machine, Bagger, Sewing machine, Palletizer
?	NO VALUE FOUND
24	Front-end loader, Tractor-shovel, Payloader, Highlift, Skip loader
40	Milling machinery, Block press, Ballast machine
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
28	Hand tools (not powered)
?	NO VALUE FOUND

?	NO VALUE FOUND
?	NO VALUE FOUND
14	Crane, Cherry picker, Lift basket, Scissor truck, Boom truck
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
44	Ore haulage trucks - off highway trucks
44	Ore haulage trucks - off highway trucks
?	NO VALUE FOUND

EQUIP_MFR_CD	EQUIP_MFR_NAME
0000	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
121	Not Reported
0000	Not Reported
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
119	Not on this list
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
1301	Mack
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
0310	Caterpillar
?	NO VALUE FOUND
1013	Joy Machinery Co. (Joy, Joy Manufacturing Co.)
?	NO VALUE FOUND
?	NO VALUE FOUND
119	Not on this list
047	Goodman
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
121	Not Reported
119	Not on this list
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND

?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
039	Fletcher
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
0000	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
058	Joy
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
0000	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
119	Not on this list
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
018	Caterpillar
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
044	Gardner-Denver
?	NO VALUE FOUND

?	NO VALUE FOUND
0000	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
2303	Wagner
0607	Fletcher
?	NO VALUE FOUND
?	NO VALUE FOUND
119	Not on this list
?	NO VALUE FOUND
?	NO VALUE FOUND
109	Wagner
061	Kubota
?	NO VALUE FOUND
058	Joy
?	NO VALUE FOUND
058	Joy
?	NO VALUE FOUND
119	Not on this list
?	NO VALUE FOUND
063	Komatsu
?	NO VALUE FOUND
063	Komatsu
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
119	Not on this list
018	Caterpillar
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
119	Not on this list
?	NO VALUE FOUND
026	Dart Truck
119	Not on this list
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND

?	NO VALUE FOUND
?	NO VALUE FOUND
121	Not Reported
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
018	Caterpillar
018	Caterpillar
?	NO VALUE FOUND

EQUIP_MODEL_NO	SHIFT_BEGIN_TIME	CLASSIFICATION_CD
?	2300	17
?	700	18
	700	?
	700	09
	700	10
	700	09
	700	18
	700	18
	600	09
	700	11
?	600	09
	600	18
?	1500	09
	700	09
	700	03
	1900	09
	500	09
?	700	18
713	700	14
	700	18
	700	09
	700	09
	600	30
?	600	18
	2300	17
DM6855	700	12
?	700	09
	600	09
	600	18
765C	2200	12
?	2200	07
1012	2200	17
	2200	07
	2200	07
9542	2200	13
9283	1400	08
	1400	18
	2200	09
	2200	12
	1400	18
	2200	12
G-42299	1400	13
?	635	31
?	700	20
?	700	18
?	700	09

	1500 ?
	2300 01
	1500 18
	2300 18
DDo-13	2300 17
	2300 17
	700 09
	2300 18
	700 07
?	600 12
?	2300 09
?	700 07
	700 12
	2300 09
	1500 07
	700 09
001	2300 09
	700 18
	2300 18
	1500 09
	700 17
	600 09
?	1500 18
?	1100 30
?	700 10
	700 09
	700 09
	2300 18
	700 09
	700 18
S/N 82-13675	1530 13
?	700 09
?	700 09
?	1500 18
?	1500 05
	700 12
	1500 09
	700 18
	1500 09
	1500 03
	2300 10
SH126	700 03
	1500 18
	2300 12
	700 09
500	630 18
	600 08

	700 09
?	1500 10
	1900 09
	700 09
?	700 06
?	1500 18
?	2300 09
254C	1500 12
HDDR-15	2300 10
	700 20
?	2300 18
2201	2300 17
	1500 18
	700 09
415	1500 12
L4330DT	2300 17
	1500 09
7LS	700 17
	2300 09
12 CM 27	1500 14
	700 09
	600 09
?	700 07
PC750SE	600 17
?	9999 18
	600 18
	600 18
	630 17
	430 18
?	700 18
APS1315KW	600 09
D10N	1630 18
	1600 09
	500 10
	530 18
LRT-275D	600 17
	700 10
	1500 09
150DC	600 17
	800 09
600	600 09
Guzzle wx Guz-001	600 17
	1800 09
	530 18
	500 19
	530 10
	600 18

?	600 09
	500 18
	500 17
	600 19
	1830 21
	400 09
793B	1900 12
793B	700 12
	700 09

CLASSIFICATION	ACCIDENT_TYPE_CD
MACHINERY	01
SLIP OR FALL OF PERSON	14
NO VALUE FOUND	?
HANDLING OF MATERIALS	27
HANDTOOLS (NONPOWERED)	08
HANDLING OF MATERIALS	30
SLIP OR FALL OF PERSON	30
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	27
NONPOWERED HAULAGE	21
HANDLING OF MATERIALS	30
SLIP OR FALL OF PERSON	30
HANDLING OF MATERIALS	28
HANDLING OF MATERIALS	27
EXPLODING VESSELS UNDER PRESSURE	38
HANDLING OF MATERIALS	05
HANDLING OF MATERIALS	30
SLIP OR FALL OF PERSON	30
IGNITION OR EXPLOSION OF GAS OR DUST	44
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	30
HANDLING OF MATERIALS	04
DISORDERS (PHYSICAL AGENTS)	32
SLIP OR FALL OF PERSON	17
MACHINERY	01
POWERED HAULAGE	02
HANDLING OF MATERIALS	01
HANDLING OF MATERIALS	38
SLIP OR FALL OF PERSON	30
POWERED HAULAGE	02
FALL OF ROOF OR BACK	44
MACHINERY	05
FALL OF ROOF OR BACK	44
FALL OF ROOF OR BACK	44
HOISTING	44
FIRE	44
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	30
POWERED HAULAGE	21
SLIP OR FALL OF PERSON	17
POWERED HAULAGE	02
HOISTING	44
DISORDERS (REPEATED TRAUMA)	30
STRIKING OR BUMPING	01
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	30

NO VALUE FOUND	?
ELECTRICAL	39
SLIP OR FALL OF PERSON	18
SLIP OR FALL OF PERSON	17
MACHINERY	24
MACHINERY	08
HANDLING OF MATERIALS	38
SLIP OR FALL OF PERSON	24
FALL OF ROOF OR BACK	04
POWERED HAULAGE	24
HANDLING OF MATERIALS	27
FALL OF ROOF OR BACK	44
POWERED HAULAGE	02
HANDLING OF MATERIALS	30
FALL OF ROOF OR BACK	44
HANDLING OF MATERIALS	21
HANDLING OF MATERIALS	04
SLIP OR FALL OF PERSON	30
SLIP OR FALL OF PERSON	30
HANDLING OF MATERIALS	21
MACHINERY	08
HANDLING OF MATERIALS	21
SLIP OR FALL OF PERSON	30
DISORDERS (PHYSICAL AGENTS)	32
HANDTOOLS (NONPOWERED)	28
HANDLING OF MATERIALS	08
HANDLING OF MATERIALS	28
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	27
SLIP OR FALL OF PERSON	18
HOISTING	44
HANDLING OF MATERIALS	05
HANDLING OF MATERIALS	01
SLIP OR FALL OF PERSON	17
FALLING/SLIDING/ROLLING MATERIALS	04
POWERED HAULAGE	07
HANDLING OF MATERIALS	21
SLIP OR FALL OF PERSON	30
HANDLING OF MATERIALS	28
EXPLODING VESSELS UNDER PRESSURE	38
HANDTOOLS (NONPOWERED)	08
EXPLODING VESSELS UNDER PRESSURE	08
SLIP OR FALL OF PERSON	30
POWERED HAULAGE	21
HANDLING OF MATERIALS	21
SLIP OR FALL OF PERSON	18
FIRE	44

HANDLING OF MATERIALS	21
HANDTOOLS (NONPOWERED)	30
HANDLING OF MATERIALS	24
HANDLING OF MATERIALS	05
FALL OF FACE/RIB/PILLAR/SIDE/HIGHWALL	04
SLIP OR FALL OF PERSON	17
HANDLING OF MATERIALS	08
POWERED HAULAGE	30
HANDTOOLS (NONPOWERED)	08
STRIKING OR BUMPING	01
SLIP OR FALL OF PERSON	14
MACHINERY	08
SLIP OR FALL OF PERSON	30
HANDLING OF MATERIALS	28
POWERED HAULAGE	21
MACHINERY	05
HANDLING OF MATERIALS	30
MACHINERY	05
HANDLING OF MATERIALS	21
IGNITION OR EXPLOSION OF GAS OR DUST	44
HANDLING OF MATERIALS	27
HANDLING OF MATERIALS	06
FALL OF ROOF OR BACK	44
MACHINERY	02
SLIP OR FALL OF PERSON	12
SLIP OR FALL OF PERSON	30
SLIP OR FALL OF PERSON	30
MACHINERY	05
SLIP OR FALL OF PERSON	12
SLIP OR FALL OF PERSON	15
HANDLING OF MATERIALS	01
SLIP OR FALL OF PERSON	18
HANDLING OF MATERIALS	30
HANDTOOLS (NONPOWERED)	05
SLIP OR FALL OF PERSON	30
MACHINERY	24
HANDTOOLS (NONPOWERED)	05
HANDLING OF MATERIALS	27
MACHINERY	38
HANDLING OF MATERIALS	21
HANDLING OF MATERIALS	30
MACHINERY	24
HANDLING OF MATERIALS	24
SLIP OR FALL OF PERSON	30
STEPPING OR KNEELING ON OBJECT	01
HANDTOOLS (NONPOWERED)	29
SLIP OR FALL OF PERSON	16

HANDLING OF MATERIALS	27
SLIP OR FALL OF PERSON	10
MACHINERY	04
STEPPING OR KNEELING ON OBJECT	01
OTHER	38
HANDLING OF MATERIALS	04
POWERED HAULAGE	02
POWERED HAULAGE	02
HANDLING OF MATERIALS	21

ACCIDENT_TYPE	NO_INJURIES	TOT_EXPER
Struck against stationary object	1	0.61
Fall from ladders	1	0.11
No Value Found	1	
Over-exertion in lifting objects	1	4.54
Struck by... NEC	1	7.62
Over-exertion NEC	1	20.54
Over-exertion NEC	1	25.85
Fall to the walkway or working surface	1	27.02
Over-exertion in lifting objects	1	16
Caught in, under or between a moving and a stationary object	1	29.08
Over-exertion NEC	1	33
Over-exertion NEC	1	6.96
Over-exertion in pulling or pushing objects	1	1.23
Over-exertion in lifting objects	1	29
Absorption of radiations, caustics, toxic and noxious substances	1	3.08
Struck by flying object	1	3.54
Over-exertion NEC	1	40.54
Over-exertion NEC	1	6.59
Accident type, without injuries	0	
Fall to the walkway or working surface	1	10.02
Over-exertion NEC	1	4.92
Struck by falling object	1	12.25
Contact with heat	1	16
Fall to the walkway or working surface	1	1.65
Struck against stationary object	1	0.62
Struck against a moving object	1	14
Struck against stationary object	1	16.03
Absorption of radiations, caustics, toxic and noxious substances	1	2.69
Over-exertion NEC	1	7.1
Struck against a moving object	1	0.69
Accident type, without injuries	0	
Struck by flying object	1	19.84
Accident type, without injuries	0	
Accident type, without injuries	0	
Accident type, without injuries	0	
Accident type, without injuries	0	
Fall to the walkway or working surface	1	29
Over-exertion NEC	1	27
Caught in, under or between a moving and a stationary object	1	5.5
Fall to the walkway or working surface	1	32
Struck against a moving object	1	2
Accident type, without injuries	0	
Over-exertion NEC	1	22.59
Struck against stationary object	1	23.11
Fall to the walkway or working surface	1	27.69
Over-exertion NEC	1	28

No Value Found	1	16.63
Flash burns (electric)	1	12.62
Fall onto or against objects	1	1.46
Fall to the walkway or working surface	1	1.1
Caught in, under or between NEC	1	7.58
Struck by... NEC	1	3.52
Absorption of radiations, caustics, toxic and noxious substances	3	6.13
Caught in, under or between NEC	1	12.19
Struck by falling object	1	5
Caught in, under or between NEC	1	8
Over-exertion in lifting objects	1	27
Accident type, without injuries	0	
Struck against a moving object	1	29.5
Over-exertion NEC	1	0.08
Accident type, without injuries	0	
Caught in, under or between a moving and a stationary object	1	4.15
Struck by falling object	1	1.96
Over-exertion NEC	1	16.62
Over-exertion NEC	1	33.23
Caught in, under or between a moving and a stationary object	1	5.69
Struck by... NEC	1	29.08
Caught in, under or between a moving and a stationary object	1	2
Over-exertion NEC	1	20
Contact with heat	1	22.69
Over-exertion in pulling or pushing objects	1	25
Struck by... NEC	1	24
Over-exertion in pulling or pushing objects	1	0.75
Fall to the walkway or working surface	1	20
Over-exertion in lifting objects	1	16
Fall onto or against objects	1	0.42
Accident type, without injuries	0	
Struck by flying object	1	20.25
Struck against stationary object	1	
Fall to the walkway or working surface	1	0.4
Struck by falling object	1	4.57
Struck by powered moving object	1	22
Caught in, under or between a moving and a stationary object	1	22.56
Over-exertion NEC	1	27.54
Over-exertion in pulling or pushing objects	1	27.81
Absorption of radiations, caustics, toxic and noxious substances	1	2.15
Struck by... NEC	1	6.23
Struck by... NEC	1	11.33
Over-exertion NEC	1	7.37
Caught in, under or between a moving and a stationary object	1	6.21
Caught in, under or between a moving and a stationary object	1	8.88
Fall onto or against objects	1	2.5
Accident type, without injuries	0	

Caught in, under or between a moving and a stationary object	1	0.23
Over-exertion NEC	1	5.53
Caught in, under or between NEC	1	0.19
Struck by flying object	1	24.54
Struck by falling object	1	26
Fall to the walkway or working surface	1	25
Struck by... NEC	1	22.5
Over-exertion NEC	1	22
Struck by... NEC	1	20
Struck against stationary object	1	22
Fall from ladders	1	28
Struck by... NEC	1	
Over-exertion NEC	1	29.5
Over-exertion in pulling or pushing objects	1	26
Caught in, under or between a moving and a stationary object	1	30
Struck by flying object	1	28
Over-exertion NEC	1	7
Struck by flying object	1	32
Caught in, under or between a moving and a stationary object	1	3
Accident type, without injuries	0	
Over-exertion in lifting objects	1	13
Struck by rolling or sliding object	1	9.73
Accident type, without injuries	0	
Struck against a moving object	1	6
Fall from machine	1	20
Over-exertion NEC	1	0.83
Over-exertion NEC	1	0.62
Struck by flying object	1	5.56
Fall from machine	1	1
Fall down stairs	1	8.5
Struck against stationary object	1	1.62
Fall onto or against objects	1	25
Over-exertion NEC	1	1
Struck by flying object	1	9.23
Over-exertion NEC	1	15
Caught in, under or between NEC	1	24
Struck by flying object	1	0.21
Over-exertion in lifting objects	1	38
Absorption of radiations, caustics, toxic and noxious substances	1	3.37
Caught in, under or between a moving and a stationary object	1	7.19
Over-exertion NEC	1	15
Caught in, under or between NEC	1	1.29
Caught in, under or between NEC	1	8
Over-exertion NEC	1	2.44
Struck against stationary object	1	1
Over-exertion in welding or throwing objects	1	3.06
Fall to lower level, NEC	1	46

Over-exertion in lifting objects	1	5
Fall from scaffolds, walkways, platforms	1	0.83
Struck by falling object	1	1.38
Struck against stationary object	1	19.38
Absorption of radiations, caustics, toxic and noxious substances	1	0.4
Struck by falling object	1	10.27
Struck against a moving object	1	1.65
Struck against a moving object	1	0.27
Caught in, under or between a moving and a stationary object	1	1.46

MINE_EXPER	JOB_EXPER	OCCUPATION_CD
0.61	0.15	304
0.11	0.11	374
	?	
4.54	4.54	316
7.62	7.62	302
20.54	10	414
25.85	25.85	318
27.02	27.02	374
16	6	374
29.08	29.08	304
33	8	374
6.96	0.71	368
1.23	0.23	374
29	29	304
2.31	1.15	304
2.54	0.12	379
40.54	40.54	376
6.59	3.94	302
	?	
10.02	8.98	374
4.92	3.69	374
12.25	2.1	304
13.06	13.06	374
1.65	1.65	316
0.62	0.62	327
5	5	176
0.03	16	302
2.69	2.69	374
7.1	7.1	374
0.69	0.3	368
	?	
19.84	13.67	041
	?	
	?	
	?	
	?	
2.87	2.87	053
8.5	1.04	269
3.69	3.69	102
2.25	6.1	109
2	1	102
	?	
10.26	0.38	302
21.88	2.13	016
25.65	3.73	041
25.65	24.98	004

13.48	12.85 116
12.62	0.06 149
1.46	1.46 116
1.1	1.1 149
7.58	7.58 016
3.52	3.52 046
6.13	6.13 116
6.77	6.77 116
3	4 044
8	8 304
18.4	2.75 016
	?
29.5	3.23 269
0.08	0.08 116
	?
4.15	2.15 116
1.96	1.96 116
16.62	1.46 462
33.23	3.62 116
5.69	2.38 102
21.92	1.92 304
0.54	0.54 379
20	0.38 304
22.69	2.53 041
25	20 016
24	24 041
0.75	0.6 116
20	20 462
16	16 307
0.42	0.42 116
	?
20.25	15.25 004
	016
0.4	0.4 016
4.57	4.57 049
22	9 101
22.56	13.27 104
27.54	1.12 269
27.81	12.08 041
2.15	0.46 104
6.23	1.42 149
11.33	3.15 004
7.37	0.15 004
6.21	1.04 250
8.88	0.69 269
0.4	0.4 334
	?

0.23	24.87 494
5.53	2.3 304
0.19	0.19 327
24.54	24.54 304
5	1 001
6	1 016
0.07	0.07 016
0.53	0.15 016
0.92	0.92 046
9	3 104
2.5	2.5 008
3.5	2.5 157
13	5 462
11	4 046
12	1.02 462
14	6 104
3	2 050
7	25 149
1.23	0.15 041
	?
13	11 104
9.73	9.73 319
	?
4	4 368
0.01	3 304
0.83	0.83 368
0.62	0.62 316
5.56	5.56 304
1	10 376
8.5	8.5 304
1.62	1.62 368
1	25 316
1	1 304
9.23	9.23 327
15	15 368
0.15	24 302
0.21	0.21 316
0.08	38 004
3.37	3.37 374
7.19	3.19 374
15	15 304
1	1.29 327
0.15	4 374
2.44	2.44 489
1	1 303
0.46	0.46 305
46	3 374

2	3.5 394
0.25	0.83 333
1.38	1.38 316
19.38	0.85 303
0.4	0.4 376
10.27	10.27 368
1.65	1.65 376
0.27	0.27 376
1.46	1.46 304

OCCUPATION

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

NO VALUE FOUND

Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman

Electrician, Lineman

Quality control technician, Laboratory technician, Laboratory assistant

Greaser, Grease man, Oiler, Lube man, Dragline oiler

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

Dryer operator, Kiln operator, Dry plant operator, Fluid operator, Bed dryer operator

Haul/Off road/Coal/Ore/Pit/Quarry/Rock/Rubber tire truck driver, Transportation truck driver

Electrician, Lineman

NO VALUE FOUND

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman

Pumper

Truck driver

Electrician, Lineman

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer

NO VALUE FOUND

LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper

NO VALUE FOUND

NO VALUE FOUND

NO VALUE FOUND

NO VALUE FOUND

Utility man, Errand boy, Service truck operator

Motorman, Motor person, Swamper, Switchman, Locomotive operator

Electrician, Lineman

Supply man, Supply worker, Nipper

Electrician, Lineman

NO VALUE FOUND

Electrician, Lineman

Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler

LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Bull gang foreman, Labor foreman, Leadman, Section foreman, Shift boss
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Bull gang foreman, Labor foreman, Leadman, Section foreman, Shift boss
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Roof bolter, Rock bolter, Pinner, Mobile roof support operator (MRS)
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Longwall operator, Chock operator, Shear operator, Plow operator
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
NO VALUE FOUND
Motorman, Motor person, Swamper, Switchman, Locomotive operator
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
NO VALUE FOUND
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Examiner, Fire boss, Pre-shift examiner, Mine examiner
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Electrician, Lineman
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Dryer operator, Kiln operator, Dry plant operator, Fluid operator, Bed dryer operator
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
Examiner, Fire boss, Pre-shift examiner, Mine examiner
Blaster, Shooter, Shotfirer, Explosive worker, Powder gang/monkey
Laborer, Bull gang, Parts runner, Roustabout, Roof trimmer/scaler
NO VALUE FOUND
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Section foreman, Bullgang foreman, Labor foreman, Leadman, Shift boss
Beltman, Conveyor man, Conveyor belt worker, Mobile bridge carrierman, Feeder operator, Conveyor rider
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Motorman, Motor person, Swamper, Switchman, Locomotive operator
LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Bull gang foreman, Labor foreman, Leadman, Section foreman, Shift boss
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech
Shuttle car operator, Mantrip operator, Ramcar operator, Rail runner, Buggy operator
Motorman, Motor person, Swamper, Switchman, Locomotive operator
Drill operator
NO VALUE FOUND

Prep plant foreman, Supervisor, Mill plant supervisor, Kiln supervisor
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Pumper
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Beltman, Conveyor man, Conveyor belt worker, Mobile bridge carrierman, Feeder operator, Conveyor rider
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Laborer, Bull gang, Faceman, Parts runner, Roustabout, Roof trimmer/scaler
Roof bolter, Rock bolter, Pinner, Mobile roof support operator (MRS)
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Stopping builder, Ventilation man, Mason man, Overcast
Pumper
Examiner, Fire boss, Pre-shift examiner, Mine examiner
Roof bolter, Rock bolter, Pinner, Mobile roof support operator (MRS)
Examiner, Fire boss, Pre-shift examiner, Mine examiner
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Shuttle car operator, Mantrip operator, Ramcar operator, Rail runner, Buggy operator
Bull gang foreman, Labor foreman, Leadman, Section foreman, Shift boss
LW Propman, Propman helper, Move crew if LW, Move-up man, Jacksetter, Advanceman LW helper
NO VALUE FOUND
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Welder (shop)
NO VALUE FOUND
Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer
Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Haul/Off road/Coal/Ore/Pit/Quarry/Rock/Rubber tire truck driver, Transportation truck driver
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer
Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Pumper
Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer
Electrician, Lineman
Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator
Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator
Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueler, Tire tech, Field service tech
Pumper
Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator
Outside foreman, Leadman
Electrician helper
Mechanic helper
Warehouseman, Bagger, Palletizer/Stacker, Store keeper, Packager, Fabricator, Cleaning plant operator

Carpenter

Drill helper

Laborer, Blacksmith, Bull gang, Parts runner, Roustabout, Pick-up man, Pitman

Electrician helper

Haul/Off road/Coal/Ore/Pit/Quarry/Rock/Rubber tire truck driver, Transportation truck driver

Bulldozer operator, Universal operator, Heavy equipment operator, Operating engineer

Haul/Off road/Coal/Ore/Pit/Quarry/Rock/Rubber tire truck driver, Transportation truck driver

Haul/Off road/Coal/Ore/Pit/Quarry/Rock/Rubber tire truck driver, Transportation truck driver

Maintenance man, Mechanic, Repair/Service man, Boilermaker, Fueller, Tire tech, Field service tech

ACTIVITY_CD	ACTIVITY	INJURY_SOURCE_CD
031	Hand tools (powered)	088
013	Climb scaffolds, Ladders	072
038	Lay or repair railroad track	?
028	Handling supplies or material	005
030	Hand tools (not powered)	051
037	Enter/work in bins, Silos	117
039	Machine maintenance	010
028	Handling supplies or material	117
028	Handling supplies or material	114
041	Move non-self-propelled equip	039
092	Walking, Running	011
023	Getting on or off equipment	117
028	Handling supplies or material	034
039	Machine maintenance	043
036	Inspect equipment or mine	003
036	Inspect equipment or mine	086
023	Getting on or off equipment	104
028	Handling supplies or material	088
?	NO VALUE FOUND	?
092	Walking, Running	016
013	Climb scaffolds, Ladders	072
039	Machine maintenance	035
039	Machine maintenance	058
092	Walking, Running	117
031	Hand tools (powered)	086
055	Haulage or Dump truck	104
020	Electrical maintenance	043
028	Handling supplies or material	031
092	Walking, Running	011
055	Haulage or Dump truck	104
?	NO VALUE FOUND	?
039	Machine maintenance	086
?	NO VALUE FOUND	?
?	NO VALUE FOUND	?
?	NO VALUE FOUND	?
?	NO VALUE FOUND	?
028	Handling supplies or material	123
028	Handling supplies or material	004
039	Machine maintenance	108
092	Walking, Running	123
062	Mantrip	108
?	NO VALUE FOUND	?
099	Unknown	127
039	Machine maintenance	088
092	Walking, Running	123
039	Machine maintenance	007

?	NO VALUE FOUND	?
020	Electrical maintenance	043
039	Machine maintenance	035
028	Handling supplies or material	123
079	Roof bolter, Tramming	077
080	Roof bolter, NEC	077
028	Handling supplies or material	021
028	Handling supplies or material	086
028	Handling supplies or material	090
039	Machine maintenance	035
028	Handling supplies or material	003
?	NO VALUE FOUND	?
058	Load-haul-dump (UG)	108
029	Handling timber	112
?	NO VALUE FOUND	?
029	Handling timber	112
028	Handling supplies or material	089
092	Walking, Running	011
092	Walking, Running	011
020	Electrical maintenance	006
024	Grinding	088
039	Machine maintenance	088
092	Walking, Running	117
082	Set or remove brattice	058
030	Hand tools (not powered)	048
039	Machine maintenance	084
028	Handling supplies or material	088
021	Environmental tests or checks	123
025	Hand load, Hand shoveling	089
092	Walking, Running	035
?	NO VALUE FOUND	?
028	Handling supplies or material	003
082	Set or remove brattice	088
028	Handling supplies or material	123
092	Walking, Running	113
013	Climb scaffolds, Ladders	108
039	Machine maintenance	067
092	Walking, Running	123
041	Move non-self-propelled equip	035
039	Machine maintenance	033
030	Hand tools (not powered)	049
039	Machine maintenance	003
092	Walking, Running	123
023	Getting on or off equipment	108
028	Handling supplies or material	086
023	Getting on or off equipment	076
?	NO VALUE FOUND	?

039	Machine maintenance	035
030	Hand tools (not powered)	050
039	Machine maintenance	088
028	Handling supplies or material	092
092	Walking, Running	090
040	Move power cable	123
028	Handling supplies or material	084
076	Ride equipment	108
030	Hand tools (not powered)	050
092	Walking, Running	086
082	Set or remove brattice	123
073	Underground equipment, NEC	003
092	Walking, Running	123
028	Handling supplies or material	082
069	Shuttle car, Ram car, Buggy	003
093	Welding or cutting	088
013	Climb scaffolds, Ladders	072
087	Supervise	089
028	Handling supplies or material	035
?	NO VALUE FOUND	?
041	Move non-self-propelled equip	098
028	Handling supplies or material	034
?	NO VALUE FOUND	?
065	Power shovel, Dragline	076
039	Machine maintenance	010
023	Getting on or off equipment	104
092	Walking, Running	010
024	Grinding	088
023	Getting on or off equipment	117
028	Handling supplies or material	010
039	Machine maintenance	088
023	Getting on or off equipment	076
092	Walking, Running	117
030	Hand tools (not powered)	088
023	Getting on or off equipment	117
036	Inspect equipment or mine	062
030	Hand tools (not powered)	088
040	Move power cable	042
063	Mill equipment	021
028	Handling supplies or material	012
039	Machine maintenance	086
039	Machine maintenance	003
028	Handling supplies or material	088
088	Surface construction, NEC	088
020	Electrical maintenance	089
030	Hand tools (not powered)	046
087	Supervise	010

028	Handling supplies or material	116
036	Inspect equipment or mine	086
072	Surface equipment, NEC	062
092	Walking, Running	089
092	Walking, Running	001
028	Handling supplies or material	043
055	Haulage or Dump truck	104
055	Haulage or Dump truck	104
039	Machine maintenance	086

INJURY_SOURCE	NATURE_INJURY_CD	NATURE_INJURY
METAL,NEC(PIPE,WIRE,NAIL)	180	CUT,LACER,PUNCT-OPN WOUND
LADDERS,NEC	330	SPRAIN,STRAIN RUPT DISC
NO VALUE FOUND	?	NO VALUE FOUND
BARRELS,KEGS,DRUMS	330	SPRAIN,STRAIN RUPT DISC
HAND TOOLS,NONPOWERED,NEC	180	CUT,LACER,PUNCT-OPN WOUND
GROUND	330	SPRAIN,STRAIN RUPT DISC
FLOOR,WALKING SURF-NOT UG	330	SPRAIN,STRAIN RUPT DISC
GROUND	330	SPRAIN,STRAIN RUPT DISC
PALLETS	330	SPRAIN,STRAIN RUPT DISC
MOTORS	180	CUT,LACER,PUNCT-OPN WOUND
STEPS	400	UNCLASSIFIED,NOT DETERMED
GROUND	330	SPRAIN,STRAIN RUPT DISC
CHUTE & SLIDE-CONVYR HOPR	330	SPRAIN,STRAIN RUPT DISC
ELECTRICAL APPARATUS,NEC	330	SPRAIN,STRAIN RUPT DISC
BOILR,PRES VSL,AIR HOS,OX	130	BURN,CHEMICL-FUME,COMPOUN
METAL COVERS & GUARDS	160	CONTUSN,BRUISE,INTAC SKIN
HGHWY ORE CARIER,LRGE TRK	330	SPRAIN,STRAIN RUPT DISC
METAL,NEC(PIPE,WIRE,NAIL)	330	SPRAIN,STRAIN RUPT DISC
NO VALUE FOUND	?	NO VALUE FOUND
SCAFFOLDS,STAGING,ETC	180	CUT,LACER,PUNCT-OPN WOUND
LADDERS,NEC	260	HERNIA;RUPTURE
BELT CONVEYORS	100	AMPUTATION OR ENUCLEATION
HEAT (ATMOS + ENVIRON)	250	HEATSTROK,SUNSTR,HT EXHAU
GROUND	160	CONTUSN,BRUISE,INTAC SKIN
METAL COVERS & GUARDS	220	FRACTURE,CHIP
HGHWY ORE CARIER,LRGE TRK	160	CONTUSN,BRUISE,INTAC SKIN
ELECTRICAL APPARATUS,NEC	180	CUT,LACER,PUNCT-OPN WOUND
KILN PROD,INC BLDUP,REMOV	130	BURN,CHEMICL-FUME,COMPOUN
STEPS	330	SPRAIN,STRAIN RUPT DISC
HGHWY ORE CARIER,LRGE TRK	180	CUT,LACER,PUNCT-OPN WOUND
NO VALUE FOUND	?	NO VALUE FOUND
METAL COVERS & GUARDS	180	CUT,LACER,PUNCT-OPN WOUND
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND
NO VALUE FOUND	?	NO VALUE FOUND
MINE FLOOR,BOTTOM,FOOTWAL	330	SPRAIN,STRAIN RUPT DISC
BAGS	330	SPRAIN,STRAIN RUPT DISC
MINE JEEP,KERSEY,JITNEY	220	FRACTURE,CHIP
MINE FLOOR,BOTTOM,FOOTWAL	330	SPRAIN,STRAIN RUPT DISC
MINE JEEP,KERSEY,JITNEY	180	CUT,LACER,PUNCT-OPN WOUND
NO VALUE FOUND	?	NO VALUE FOUND
MISCELLANEOUS,NEC	270	JOINT,TENDON,MUSCL INFLAM
METAL,NEC(PIPE,WIRE,NAIL)	180	CUT,LACER,PUNCT-OPN WOUND
MINE FLOOR,BOTTOM,FOOTWAL	220	FRACTURE,CHIP
RBR,GLS,PLSTC,FIBRGLS,FAB	330	SPRAIN,STRAIN RUPT DISC

NO VALUE FOUND	?
ELECTRICAL APPARATUS,NEC	301
BELT CONVEYORS	160
MINE FLOOR,BOTTOM,FOOTWAL	390
UNDERGRD MINING MACHINES	220
UNDERGRD MINING MACHINES	160
ACIDS,ALKALI,WET CEMENT	130
METAL COVERS & GUARDS	330
CAVING ROCK,COAL,ORE,WSTE	180
BELT CONVEYORS	100
BOILR,PRES VSL,AIR HOS,OX	330
NO VALUE FOUND	?
MINE JEEP,KERSEY,JITNEY	330
POST,CAPS,HEADERS,TIMBER	330
NO VALUE FOUND	?
POST,CAPS,HEADERS,TIMBER	180
BROKEN ROCK,COAL,ORE,WSTE	180
STEPS	330
STEPS	330
BOXES,CRATES,CARTONS	220
METAL,NEC(PIPE,WIRE,NAIL)	180
METAL,NEC(PIPE,WIRE,NAIL)	220
GROUND	330
HEAT (ATMOS + ENVIRON)	250
CROWBAR,PRY BAR	330
STEEL RAIL (ALL KINDS)	220
METAL,NEC(PIPE,WIRE,NAIL)	330
MINE FLOOR,BOTTOM,FOOTWAL	330
BROKEN ROCK,COAL,ORE,WSTE	330
BELT CONVEYORS	180
NO VALUE FOUND	?
BOILR,PRES VSL,AIR HOS,OX	180
METAL,NEC(PIPE,WIRE,NAIL)	180
MINE FLOOR,BOTTOM,FOOTWAL	330
BLOCKING	220
MINE JEEP,KERSEY,JITNEY	160
LONGWALL SUPT,JKS & CHOCK	180
MINE FLOOR,BOTTOM,FOOTWAL	330
BELT CONVEYORS	330
COAL & PETROL PRODUCT,NEC	130
KNIFE	180
BOILR,PRES VSL,AIR HOS,OX	180
MINE FLOOR,BOTTOM,FOOTWAL	330
MINE JEEP,KERSEY,JITNEY	160
METAL COVERS & GUARDS	220
SURFACE MINING MACHINES	220
NO VALUE FOUND	?

NO VALUE FOUND
ELECT.ARC BURN-NOT CONTAC
CONTUSN,BRUISE,INTAC SKIN
OTHER INJURY,NEC
FRACTURE,CHIP
CONTUSN,BRUISE,INTAC SKIN
BURN,CHEMICL-FUME,COMPOUN
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
AMPUTATION OR ENUCLEATION
SPRAIN,STRAIN RUPT DISC
NO VALUE FOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
NO VALUE FOUND
CUT,LACER,PUNCT-OPN WOUND
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
CUT,LACER,PUNCT-OPN WOUND
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
HEATSTROK,SUNSTR,HT EXHAU
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
NO VALUE FOUND
CUT,LACER,PUNCT-OPN WOUND
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
CONTUSN,BRUISE,INTAC SKIN
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
BURN,CHEMICL-FUME,COMPOUN
CUT,LACER,PUNCT-OPN WOUND
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
CONTUSN,BRUISE,INTAC SKIN
FRACTURE,CHIP
FRACTURE,CHIP
NO VALUE FOUND

BELT CONVEYORS	170
WRENCH	330
METAL,NEC(PIPE,WIRE,NAIL)	180
PULVERIZED MINERAL (DUST)	320
CAVING ROCK,COAL,ORE,WSTE	160
MINE FLOOR,BOTTOM,FOOTWAL	160
STEEL RAIL (ALL KINDS)	220
MINE JEEP,KERSEY,JITNEY	330
WRENCH	220
METAL COVERS & GUARDS	330
MINE FLOOR,BOTTOM,FOOTWAL	220
BOILR,PRES VSL,AIR HOS,OX	330
MINE FLOOR,BOTTOM,FOOTWAL	330
DRILL STEEL (ALL SIZES)	330
BOILR,PRES VSL,AIR HOS,OX	180
METAL,NEC(PIPE,WIRE,NAIL)	220
LADDERS,NEC	330
BROKEN ROCK,COAL,ORE,WSTE	400
BELT CONVEYORS	180
NO VALUE FOUND	?
PUMPS,FANS,COMP,ENG,NEC	330
CHUTE & SLIDE-CONVYR HOPR	220
NO VALUE FOUND	?
SURFACE MINING MACHINES	400
FLOOR,WALKING SURF-NOT UG	220
HGHWY ORE CARIER,LRGE TRK	330
FLOOR,WALKING SURF-NOT UG	220
METAL,NEC(PIPE,WIRE,NAIL)	180
GROUND	220
FLOOR,WALKING SURF-NOT UG	330
METAL,NEC(PIPE,WIRE,NAIL)	180
SURFACE MINING MACHINES	220
GROUND	330
METAL,NEC(PIPE,WIRE,NAIL)	180
GROUND	330
CRANES,DERRICKS	100
METAL,NEC(PIPE,WIRE,NAIL)	220
CONDCTR,ELCT,CBL,TROL POL	330
ACIDS,ALKALI,WET CEMENT	130
DOORS,INCL UG VENTILATION	180
METAL COVERS & GUARDS	330
BOILR,PRES VSL,AIR HOS,OX	330
METAL,NEC(PIPE,WIRE,NAIL)	180
METAL,NEC(PIPE,WIRE,NAIL)	160
BROKEN ROCK,COAL,ORE,WSTE	330
AXE,HAMMER,SLEDGE	330
FLOOR,WALKING SURF-NOT UG	370

CRUSHING
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
DUST IN EYES
CONTUSN,BRUISE,INTAC SKIN
CONTUSN,BRUISE,INTAC SKIN
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
UNCLASSIFIED,NOT DETERMED
CUT,LACER,PUNCT-OPN WOUND
NO VALUE FOUND
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
NO VALUE FOUND
UNCLASSIFIED,NOT DETERMED
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP
CUT,LACER,PUNCT-OPN WOUND
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
AMPUTATION OR ENUCLEATION
FRACTURE,CHIP
SPRAIN,STRAIN RUPT DISC
BURN,CHEMICAL-FUME,COMPOUN
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
CONTUSN,BRUISE,INTAC SKIN
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
MULTIPLE INJURIES

WOOD ITEMS,NEC	330
METAL COVERS & GUARDS	180
CRANES,DERRICKS	330
BROKEN ROCK,COAL,ORE,WSTE	330
ANIMALS,INSCTS,BRDS,REPTL	280
ELECTRICAL APPARATUS,NEC	180
HGHWY ORE CARIER,LRGE TRK	330
HGHWY ORE CARIER,LRGE TRK	330
METAL COVERS & GUARDS	220

SPRAIN,STRAIN RUPT DISC
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
POISONING,SYSTEMIC
CUT,LACER,PUNCT-OPN WOUND
SPRAIN,STRAIN RUPT DISC
SPRAIN,STRAIN RUPT DISC
FRACTURE,CHIP

INJ_BODY_PART_CD	INJ_BODY_PART	SCHEDULE_CHARGE
340	FINGER(S)/THUMB	
313	FOREARM/ULNAR/RADIUS	
?	NO VALUE FOUND	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
330	HAND (NOT WRIST OR FINGERS)	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
512	KNEE/PATELLA	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
410	ABDOMEN/INTERNAL ORGANS	0
340	FINGER(S)/THUMB	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
520	ANKLE	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
700	MULTIPLE PARTS (MORE THAN ONE MAJOR)	0
430	CHEST (RIBS/BREAST BONE/CHEST ORGNS)	0
460	TRUNK, MULTIPLE PARTS	0
520	ANKLE	
?	NO VALUE FOUND	0
512	KNEE/PATELLA	0
440	HIPS (PELVIS/ORGANS/KIDNEYS/BUTTOCKS)	0
340	FINGER(S)/THUMB	50
600	BODY SYSTEMS	0
312	ELBOW	
340	FINGER(S)/THUMB	0
100	HEAD,NEC	
330	HAND (NOT WRIST OR FINGERS)	
530	FOOT(NOT ANKLE/TOE)/TARSUS/METATARSUS	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
142	MOUTH/LIP/TEETH/TONGUE/THROAT/TASTE	
?	NO VALUE FOUND	
350	UPPER EXTREMITIES, MULTIPLE	
?	NO VALUE FOUND	0
?	NO VALUE FOUND	0
?	NO VALUE FOUND	0
?	NO VALUE FOUND	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
530	FOOT(NOT ANKLE/TOE)/TARSUS/METATARSUS	0
512	KNEE/PATELLA	0
150	SCALP	0
?	NO VALUE FOUND	0
320	WRIST	
130	EYE(S) OPTIC NERVE/VISON	
312	ELBOW	
520	ANKLE	

?	NO VALUE FOUND	0
330	HAND (NOT WRIST OR FINGERS)	0
430	CHEST (RIBS/BREAST BONE/CHEST ORGNS)	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
340	FINGER(S)/THUMB	0
312	ELBOW	0
513	LOWER LEG/TIBIA/FIBULA	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
100	HEAD,NEC	0
340	FINGER(S)/THUMB	100
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
?	NO VALUE FOUND	
200	NECK	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
?	NO VALUE FOUND	0
340	FINGER(S)/THUMB	0
100	HEAD,NEC	0
512	KNEE/PATELLA	0
550	LOWER EXTREMITIES, MULTIPLE PARTS	0
340	FINGER(S)/THUMB	0
130	EYE(S) OPTIC NERVE/VISON	0
340	FINGER(S)/THUMB	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
600	BODY SYSTEMS	
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
520	ANKLE	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
513	LOWER LEG/TIBIA/FIBULA	0
?	NO VALUE FOUND	0
130	EYE(S) OPTIC NERVE/VISON	
330	HAND (NOT WRIST OR FINGERS)	
512	KNEE/PATELLA	
530	FOOT(NOT ANKLE/TOE)/TARSUS/METATARSUS	
440	HIPS (PELVIS/ORGANS/KIDNEYS/BUTTOCKS)	0
340	FINGER(S)/THUMB	0
512	KNEE/PATELLA	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
144	FACE, MULTIPLE PARTS	0
330	HAND (NOT WRIST OR FINGERS)	0
140	FACE,NEC	0
520	ANKLE	0
513	LOWER LEG/TIBIA/FIBULA	0
340	FINGER(S)/THUMB	0
513	LOWER LEG/TIBIA/FIBULA	0
?	NO VALUE FOUND	0

340	FINGER(S)/THUMB	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	
340	FINGER(S)/THUMB	0
130	EYE(S) OPTIC NERVE/VISON	0
530	FOOT(NOT ANKLE/TOE)/TARSUS/METATARSUS	
440	HIPS (PELVIS/ORGANS/KIDNEYS/BUTTOCKS)	
340	FINGER(S)/THUMB	
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
141	JAW INCLUDE CHIN	
200	NECK	0
310	ARM,NEC	
340	FINGER(S)/THUMB	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
340	FINGER(S)/THUMB	0
700	MULTIPLE PARTS (MORE THAN ONE MAJOR)	0
520	ANKLE	0
540	TOE(S)/PHALANGES	0
340	FINGER(S)/THUMB	0
?	NO VALUE FOUND	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
540	TOE(S)/PHALANGES	0
?	NO VALUE FOUND	
700	MULTIPLE PARTS (MORE THAN ONE MAJOR)	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
513	LOWER LEG/TIBIA/FIBULA	0
130	EYE(S) OPTIC NERVE/VISON	0
520	ANKLE	0
512	KNEE/PATELLA	
340	FINGER(S)/THUMB	0
512	KNEE/PATELLA	0
512	KNEE/PATELLA	0
313	FOREARM/ULNAR/RADIUS	0
700	MULTIPLE PARTS (MORE THAN ONE MAJOR)	0
340	FINGER(S)/THUMB	200
340	FINGER(S)/THUMB	0
420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	0
130	EYE(S) OPTIC NERVE/VISON	0
340	FINGER(S)/THUMB	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
314	ARM, MULTIPLE PARTS	0
340	FINGER(S)/THUMB	0
512	KNEE/PATELLA	0
520	ANKLE	0
450	SHOULDERS (COLLARBONE/CLAVICLE/SCAPULA)	0
100	HEAD,NEC	6000

420	BACK (MUSCLES/SPINE/S-CORD/TAILBONE)	
510	LEG, NEC	0
310	ARM,NEC	0
520	ANKLE	0
600	BODY SYSTEMS	0
340	FINGER(S)/THUMB	0
200	NECK	0
200	NECK	0
340	FINGER(S)/THUMB	0

DAYS_RESTRICT	DAYS_LOST	TRANS_TERM	RETURN_TO_WORK_DT
		N	7/28/2003
1		N	4/28/2000
0	0		
15	0	N	2/2/2005
7	0	N	2/4/2008
15	0	N	3/13/2008
21	0	N	4/8/2011
110	0	N	8/13/2016
0	0	N	7/17/2018
0	0	N	9/28/2006
	227	N	12/5/2002
8	0	N	2/1/2010
5		N	6/14/2002
0	242	N	5/1/2004
9	0	N	1/13/2014
0	0	N	2/27/2017
50		N	4/12/2002
0	0		
0	0	N	1/12/2005
4	12	N	1/26/2009
0	0	N	6/22/2015
	9	N	1/22/2004
30	0	N	8/11/2011
		N	5/22/2001
		N	9/25/2001
7	0	N	12/5/2006
5	0	N	9/3/2010
		N	1/23/2001
		N	9/20/2002
0	0		
0	0		
0	0		
0	0		
0	103	N	12/4/2006
0	102	N	5/1/2008
0	91	N	7/26/2010
0	269	N	5/1/2011
0	11	N	5/29/2012
0	0		
	50	N	1/22/2002
	10	N	
	51	N	9/5/2001
	21	N	12/5/2001

0	221 N	5/1/2004
10	0 N	12/3/2008
0	7 N	8/23/2010
0	227 N	5/1/2012
0	0 N	1/28/2016
0	6 N	10/5/2016
4	0 N	10/24/2016
0	82 N	9/29/2017
15	9 N	7/9/2018
103	10 N	12/12/2002
	5 N	6/9/2001
0	47 Y	4/17/2009
0	8 N	8/26/2010
0	0	
0	0 N	10/25/2012
0	0 N	12/7/2012
0	72 N	2/5/2014
0	2 N	3/10/2013
0	16 N	12/16/2015
0	0 N	8/1/2005
50	158 N	2/1/2016
	42 N	
	N	
	134 Y	3/21/2004
0	38 N	4/26/2004
0	14 N	5/25/2005
0	25 N	10/10/2005
3	0 N	5/13/2014
0	0 N	10/16/2012
0	0	
	8 N	8/21/2000
	N	9/26/2000
	69 N	2/25/2002
	35 N	10/29/2002
0	153 N	11/28/2005
0	0 N	10/23/2006
0	38 N	8/9/2008
0	26 N	5/19/2010
0	11 N	12/27/2010
0	0 N	7/8/2013
0	3 N	12/10/2014
0	3 N	4/4/2016
0	2 N	11/4/2016
0	0 N	9/29/2017
1	29 Y	1/8/2018
0	0	

0	0 N	9/24/2014
2	N	3/8/2000
0	0 N	10/17/2005
0	0 N	9/27/2007
	7 N	7/17/2000
	9 N	11/2/2000
	N	9/10/2001
	4 N	11/4/2002
	36 N	3/3/2003
0	90 N	7/23/2004
	84 N	6/24/2004
0	8 N	4/13/2005
0	11 N	5/15/2006
0	4 N	11/10/2006
0	0 N	4/4/2007
0	167 N	5/1/2008
0	9 N	1/2/2008
0	187 N	3/25/2009
0	0 N	4/18/2012
0	5 N	2/18/2008
0	108 N	10/24/2004
	63 N	10/28/2002
24	0 N	6/17/2004
94	24 N	8/25/2015
0	0 N	10/1/2010
0	118 N	10/3/2009
	30 N	4/9/2002
0	0 N	12/13/2005
0	168 N	5/1/2007
0	43 N	6/13/2011
0	0 N	2/11/2013
0	0 N	3/23/2013
34	3 N	3/7/2007
223	7 Y	6/2/2008
0	15 N	10/26/2015
0	0 N	10/14/2004
0	0 N	4/21/2005
15	0 N	10/13/2005
2	0 N	12/21/2006
0	0 N	6/20/2011
0	0 N	7/21/2008
88	0 N	2/8/2018
7	13 N	7/1/2008
0	0	

7	N	8/28/2000
0	0 N	5/11/2012
3	0 N	2/27/2017
8	0 N	12/1/2003
0	0 N	6/20/2006
0	34 N	3/20/2007
0	0 N	1/17/2007
0	0 N	4/19/2007
9	4 N	10/8/2008

IMMED_NOTIFY_CD	IMMED_NOTIFY	INVEST_BEGIN_DT
13	NOT MARKED	
13	NOT MARKED	
?	NO VALUE FOUND	
?	NO VALUE FOUND	1/8/2005
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
?	NO VALUE FOUND	
13	NOT MARKED	6/8/2002
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
05	GAS OF DUST IGNITION	12/15/2004
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
?	NO VALUE FOUND	
13	NOT MARKED	
13	NOT MARKED	9/25/2001
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
08	ROOF FALL	2/5/2002
13	NOT MARKED	
08	ROOF FALL	7/10/2004
08	ROOF FALL	10/28/2004
?	NO VALUE FOUND	5/12/2005
06	MINE FIRE	5/6/2006
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
13	NOT MARKED	
13	NOT MARKED	
13	NOT MARKED	

?	NO VALUE FOUND	
13	NOT MARKED	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
08	ROOF FALL	
13	NOT MARKED	
13	NOT MARKED	
13	NOT MARKED	
13	NOT MARKED	
?	NO VALUE FOUND	
13	NOT MARKED	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
05	GAS OF DUST IGNITION	7/10/2017
?	NO VALUE FOUND	
?	NO VALUE FOUND	
08	ROOF FALL	5/27/2003
02	SERIOUS INJURY	5/17/2004
13	NOT MARKED	7/29/2002
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
13	NOT MARKED	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
?	NO VALUE FOUND	
01	DEATH	

13	NOT MARKED
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND
?	NO VALUE FOUND

NARRATIVE

USING DRILL PRESS IN SHOP TO DRILL HOLES IN A PIECE OF PLATE. WHEN THE BIT TWISTED THE PLATE, INJURED GRABBED EE WAS NOT WATCHING WHERE HE WAS WALKING AND STEPPED DOWN A LADDER. HE FELL ABOUT HALF WAY BEFORE Railroad switch was iced over. EE jumped on it to dislodge it. Foot slipped & twisted ankle
EE WAS LIFTING 5 GALLON BUCKETS OF MEDIA TO LOAD #3 TUBE MILL, PULLED AREA IN BACK, RESULTED IN RESTRICTED Employee was working on sifter blower. Shaft of the motor was turning due to draw from dust collector. Employee Employee was stepping over berm to get slurry sample from tank farm and felt "twinge" in lower back. Slipped on slurry on floor under drum filter. Twisted knee. PLACED ON RESTRICTED DUTY 03/10/2011.
Employee hit with slurry when basket seal blew, IE fell landing on left shoulder
Employee was placing wooden pallet onto loading station at bulk bag station and felt a pain in right side.
Employee was moving an electric motor when his finger was caught between the motor and the push cart the mo THE EE WAS CARRYING OUT THE DAILY GARBAGE. AS HE WAS WALKING UP A FLIGHT OF STAIRS HE FELT A PAIN IN EE rolled ankle while dismounting dozer. Physician prescribed limited use of ankle.
THE EE THREW THE OFF SPEC CHUTE. WHEN THE KILN GOT BACK ON SPEC, THE EE HAD TO PULL THE CHUTE BACK INJURED WAS INSTALLING A BATTERY IN A VACUUM TRUCK WHEN HE FELT A SHARP PAIN IN HIS BACK. REPORTAB EE was inspecting airline for a leak when the air line broke from fitting and he was hit with compressed air (90-95 EE was putting a screw cover back on, lost control of the cover and hit ee in the chest. Contusion to the thorax, res Checking haul truck. After cranking truck, employee got out of the cab to go down the steps to the ground. When e EE WAS PULLING ELECTRICAL CABLE FOR MOTORE AT #1 BELT. HE STEPPED DOWN ONE STEP TO MAKE ANOTHER The coal mill system shut down & on restart we experienced a coal mill explosion. The explosion was attributed to Employee was walking across a catwalk, lost his footing, fell and cut his right knee.
Employee missed rung climbing vertical ladder and strained lower left abdomen.
Employee was positioning a piece of drag conveyor when it fell amputating the end of his left pinky finger just belo Employee was performing regular maintenance on the blending tower. After taking several water breaks he began EE WAS AT THE SOUTH END OF PIT TO HELP MOVE A WATER PUMP. HE WAS WALKING NEAR THE REAR OF PUMP Employee was grinding a handrail with a hand-held grinder to prepare for painting. The grinder jerked to the side ACCIDENT REPORT 5/23/01. LOADER WAS PUSHING TRUCK IN LOOSE SAND & GRAVEL, BUCKET SLIPPED OFF AP RO EE WAS INSTALLING A STAINLESS STEEL D8SCONNECT BOX (18" X 48") AT THE NORTH END OF CONVEYOR BC 460. H Employee developed burn, after cement kiln feed got into boots.
An employee felt pain in his lower back after he slipped at the bottom of stairway.
EE WAS TRAVELING ON HAUL ROAD AFTER DUMPING LOAD OF WASHED STONE. HE REACHED TO PICK UP A CLIPBO A ROOF FALL HAS OCCURRED IN L-MAIN @ SPAD 30+79 (ABANDONED L-3 HEADER HOLE AREA). THE FALL IS APPROX INJURED WAS GREASING CRUSHER BEARING WHEN PICK CAME OFF CRUSHER, KNOCKING COVER OFF AND STRIKIN A ROOF FALL OCCURRED IN OUR WEST MAIN SECTION (MMU 014-0) IN THE #5 ENTRY. THE FALL IS AT SPAD 65+65 A ROOF FALL HAS OCCURED IN WEST MAIN SECTION (MMU014-0) IN THE #2 ENTRY AT SPAD #71 & 25. THE FALL M The cedar creek service elevator was out of service from approx. 200 am until 5 20 am due to a wire being off of t While going down the track, smoke was seen coming out from under the panels. The utility men used rock dust & Employee stated that he was washing on the slope. He stepped on a mandoor that gave way causing him to fall. He Employee stated that he was loading bags of gravel onto a material car when one bag slipped. He attempted to catch it Employee stated that he was working on the feeder when a ram car trammed near him. The oil compartment cau Employee stated that he slipped on mine floor. Upon the MRI showed degenerative nature of knee and several tears. Employee stated that the carrier he was on bumped another carrier which caused him to hit his head. This caused a lace The Tyro Creek elevator was out of service from 2:00 pm to 4:00 pm due to interlock switch problem.
EMPLOYEE HAS BEEN DIAGNOSED WITH CTS IN BOTH HANDS. RIGHT HAND BEING WORST THAN LEFT HAND. EMP INJURED WAS WASHING ON SLOOPE BELT. AS HE WAS GETTING UP OFF HT EMINE FLOOR THE HANDLE OF THE AP EMPLOYEE WAS WALKING THROUGH A CROSS-CUT WHEN HE SLIPPED ON A PIECE OF BELT AND FELL.
EMPLOYEE WAS IN THE PROCESS OF INSTALLING A NEW 1 1/2" ROCK DUST HOSE ON THE ROOFBOLTER. HE STATED

EMPLOYEE STATED AS HE WAS WASHING DOWN ON THE SLOPE BELT, HE SLIPPED CAUSING HIM TO LOSE CONTROL Injured was trouble shooting a power center. A flash occurred resulting in a burn to injured's right hand. Injured was helping to change belt structure. Injured fell against rib and structure bruising his ribs. Employee was pulling dust hose back, He was warned to watch out for the structure laying against the rib. He trip Injured was preparing a roof bolter for transport. The canopy was being lowered when the cylinder released and c Injured was attempting to support a pot with a roof bolter while in the bolting cycle. The hole was being drilled next Injured was washing at the bottom of the dump/slope belt. Material being washed consisted of pumpable crib mate EE was washing the chute and had left arm over the chute when the platform EE was standing on broke and EE's left IE was helping on the longwall recovery face. EE was unhooking the shield to walking shield hoses. EE was standin EMPLOYEE WAS CALLED TO "MUD ROOM" TO REPAIR V BELT THAT HAD COME OFF THE HEAD ROLLER PULLEY ON DID NOT START LOSING TIME UNTIL 6/4/01. STRAINED LOWER BACK LIFTING DISCHARGE HOSE FROM ROCKDUST TAILGATE ENTRY FALL IN FRONT OF AND ADJACENT TO THE LONGWALL FACE FROM APPROX 1390' TO 1425' MARK. THE FA DID NOT START LOSING TIME UNTIL 2/12/09. While unloading supplies with lo-trac, drove into hole and jarred his neck DID NOT START LOSING TIME UNTIL 8/16/10. Carrying timber, timber twisted and he felt pain in neck and shoulder. The roof on the S-1 Panel tailgate fell, impeding passage off the longwall face. Employee stated he was setting up a prop and the prop fell back against a rib pin, pinning right pinky finger against Employee was washing shields down. Shear was tramming to tailgate. Rock was in bibby chain when shear was tram Employee was walking down steps on 71 overcast on N-B belt. The handrail gave way causing employee's right knee Employee was walking down steps at 1 West header and she stepped off the last step slipped and turned her left fo Employee was attempting to open door on powder box and (he had is ring finger on his right hand in the crack) when h REPORTABLE ONLY, NO LOST TIME While using a grinder, foreign body got into his right eye. Foreign body had EE was going to plug the kiln, at first he put the plug in the feed pipe backwards so he had to reposition it. When he w STEPPED OUT OF PARTS TRAILER AND STRAINED BACK AS STATED BY EMPLOYEE. EE WAS WORKING IN INERT ATMOSPHERE WHILE WEARING MINE RESCUE APPARATUS BUILDING TEMPORARY SEA EE WAS PULLING ON A PRY-BAR AND FELT PAIN IN SHOULDER. THE EE WAS STRUCK BY A 4" BEAM THAT WAS ON THE #2 TRAILING SHIELD WHEN THE #1 TRAILING SHIELD STRUCK EMPLOYEE WAS PULLING 6" PIPE FROM UNDERNEATH TRACK AND WHILE DOING SO HE FELT PAIN IN HIS LOWER BACK. Employee was trying to step down off the overcast at 25 seal and slipped off the ledge at the bottom of overcast. Blaster was using a man shovel to shovel drill cutting into bore hole when he felt sharp pain from back to both legs. Employee was taking apart rock dust pipe and water line on belt entry on K-Panel of mine. Employee was walking Timberland Hoist installation wiring was incorrect. Cooler for the gear box cooler control was wired to the #1 moto EMPLOYEE WAS REMOVING A 1/2" HOSE AND IT FLEW OUT AND STRUCK HIM ACROSS THE FACE AND EYES. WHILE HANDLING CURTAIN LINE A NAIL CUT EMPLOYEE LEFT HAND. WHILE SWEEPING BELT EMPLOYEE TRIPPED OVER A ROCK AND HURT HER KNEE. EMPLOYEE DID NOT START LOSIN EE STEPPED THRU A BRATTICE AND A LOOSE BLOCK FELL OUT AND STRUCK EE ON THE RIGHT FOOT. ***EE DID NOT EMPLOYEE WAS ON A LADDER CHECKING HOOK ON CHAIN HOIST. A RAMCAR CAME BY AND CAUGHT LEG OF THE L While attempting to set a prop, it slipped, hitting finger between it and shield. Reportable only due to stitches. Employee turned around and stepped in hole and twisted right knee **EMPLOYEE DID NOT START LOSING TIME UN Employee was pulling belt structure by himself and hurt his back. EMPLOYEE DID NOT START LOSING TIME UNTIL 4 Employee was removing leg transducer on shield and had cut the pressure valve off and was reaching for the valve REPORTABLE ONLY DUE TO SUTURES - Employee was cutting a piece of corrugated pipe when the knife slipped cutting Employee was completing a back flush at #126 shield on the longwall when a 1/2 inch loop hose blew off striking e Employee was walking off the face when EE stepped in a hole between Shield #2 and #3 causing EE to fall sprainin Employee was getting out of Lo-Trac to move a slider line curtain when ee got leg caught between bumper and fram REPORTABLE ONLY - Employee was sorting Kennedy Panels in supply area when employee's finger became caught Employee was in the process of getting down off of the drill rig and slipped and fell hitting leg on the mud pan. A loose connection on a transformer caused a power failure to the plant air compressor which caused exhaust valve

Employee was installing section of tube conveyor. One end was bolted, other end was supported by crane and bo
EMPLOYEE STRAINED RIGHT SHOULDER WHILE REPLACING MOTOR IN THE SCREENER ROOM. WHILE TIGHTENING BOL
Employee was reconnecting the infeed pipe on S-112 screener. Pulling pipe to clamp it off. Pipe got hung on screener lid
Employee was getting bolts from the parts bin underneath the kiln backspill area when a foreign body got in his rig
EMPLOYEE STATED HE WAS AT SLICKLINE ON SM ROADWAY TO GET LOAD OF GRAVEL. AS HE TURNED TO WALK AWAY AF
WHILE PULLING MINER CABLE OVER IN THE #3 ENTRY C5 SECTION, HE LOST HIS FOOTING, FELL AND LANDED ON L
WHILE LIFTING A SECTION OF ULTRA TRACK BAR, WHEN DIASASSEMBLY B-7 PAN LINE, COWORKER DROPPED HIS EN
EE STEPPED INTO SCOOP BUCKET--OPERATOR PULLED OUT--CAUSING ME TO SLIP & TWIST BACK.
EE WAS TRYING TO FREE A STUCK DRILL STEEL USING A PIPE WRENCH & WAS STRUCK ON JAW.
Employee was walking down face and bumped head against canopy of shield. ee has had prior neck surgery ee starte
EE WAS ON LADDER PLASTERING BRATTICE WHEN LADDER SLIPPED AND INJURED FELL TO FOOTWALL.
Employee started a 58 hp water pump. The rush of water into the flexible discharge hose cause it to raise up sudd
WALKING THROUGH MUD & PULLED SOMETHING IN HIS LOWER BACK.
Employee was pulling drill steel apart and felt pain in shoulder. Began missing work 11-6-06.
Employee was driving the fuel car when he struck a hole in the roadway. His hand was resting on the fire extinguish
Miner was taking a tie-rod end off of tractor. Heating the tie-rod end caused the ball to come out of the socket un
Miner twisted his ankle when the ladder he was using to turn the fresh water on turned over.
Miner was struck on the foot by a rock that came off the shearer.
Reportable due to sutures. Employee was recovering belt structure when the tip of his right middle finger was cau
At 7:05 pm on July 10, 2017 a gas ignition occurred on the H-3 section in the #3 entry while the continuous miner
Employee was moving water pump when employee strained right shoulder. Employee did not start missing time fro
Employee was fabricating a rock chute on ground. He had rolled chute over to access other side. Chute then rolled ba
AT 32 X CUT IN RETURN ROOF FELL ABOUT 6'HIGH, 20'LONG & 20'WIDE. NO ONE WAS INJURED AND NO EQUIPMEN
Running trackhoe-swung bucket around and hit a high wall. Jar hurt neck and shoulder (neck and shoulder were in
SLIPPED; LOST FOOTING WHILE GREASING TAIL BEARING. FELL WHILE STEPPING ON BEAM 36" OFF FLOOR.
EMPLOYEE WAS CLIMBING INTO A HAUL TRUCK WHEN HE RAISED HIS LEG & FELT PAIN IN HIS RT.LEG. HE WAS CHECKED
Employee was stepping over a barge cable when all his weight shifted to his right leg resulting in a fractured right
EE was rebuilding the tail pulley guards at plant using torches and grinder. At 1:30 pm realized his eye was very dry
Truck driver slipped and fell onto the ground after exiting vehicle. The ground was wet from several rainy days. Th
EE WAS CARRYING AIR HOSES DOWN A SHORT FLIGHT OF STAIRS (3-STEPS) FROM THE PREHEATER TOWER WHEN
Discharge conveyor stopped so he was turning rotor to look at the belt when his hand (right thumb) got cut by roto
Employee was getting off dozer to use restroom. He slipped and fell onto the push arm striking his left knee.
Employee was finished servicing PC2000, while walking back to his service truck he felt his left knee pop. The knee
Employee was using a hammer to hit the metal bucket of the dozer, he was replacing the dozers bucket tip and a p
Strain to the left arm and neck.
A team was setting up the crane. An employee then put his fingers on the alignment collar-bolting flange to see if the bo
Employee was holding rope used to reposition dredge. Rope broke, causing clevis pin to strike his left hand, breakin
Employee and 3 other men were picking up and pulling the miner electrical cable. Employee states "I bent over an
He was loading a cement bag onto the packer spout when suddenly it blew cement into his R- eye.
The employee was closing the shop bay doors on the east side of the shop and caught his finger in the door.
While removing an air cleaner from a dart loader he strained his right shoulder. This individual felt that he did no
While splicing a hose, his hand was sucked into the hose, up to his shoulder.
Employee was stacking liners on a platform and got his finger caught between steel liner plates causing a laceratio
while surveying setting over pipe leaned on a culvert pipe felt a pain in the knee thought nothing of it continued with
Employee stepped over handrail to access an idler and when employee stepped down on the walkway employee ro
Conditions were normal. Employee swung a hammer at a wedge hitting the side of the wedge it bounced off and je
The victim had been instructing persons making a belt splice. He fell through a 4 foot by 6 foot opening 28 feet to

TWO EMPLOYEES WERE LIFTING A STACK OF WOODEN PLANKS; WHEN INJURED TURNED HE FELT A SHARP PAIN IN
Drill deck panels were removed to facilitate re-entry set-up. During this time the driller assistant returned from an erran
EE was raising the gantry when the gantry fell and pulled the EE's arm.
EMPLOYEE WAS WALKING BACK TO BOOM TRUCK FROM WORK SITE AND STEPPED ON A ROCK, TWISTING HIS AN
An employee was walking up the steps to the Morenci mine office when he was stung twice in the neck by an insect
While loading copper cathode onto 4 stripping machine receiving conveyor, employee had one copper cathode fal
EE called the 402 and said that she hit a pot hole on the way to the 10 shovel. She was having pain in her neck and
The operator of the 557HT was leaving the King 6200 dump when his truck started to slide into oncoming traffic. He t
Employee fractured his finger when he was removing a belly pan off of a dozer.

CLOSED_DOC_NO	COAL_METAL_IND
GRABBED THE C-CLAMP	M
3.20002E+11	M
	M
3.2005E+11	M
3.20081E+11	M
3.20081E+11	M
3.20112E+11	M
3.20162E+11	M
	M
otor was sitting on. The	M
3.2003E+11	M
3.201E+11	M
CK UP IN ORDER FOR THE	M
ABLE BECAUSE OF LTA BEG	M
3.2014E+11	M
rax, restricted duty.	M
en employee stepped on	M
3.20021E+11	M
o smoldering coal under	M
	M
3.2009E+11	M
elow the first joint.	M
egan feeling ill and sought	M
3.2004E+11	C
3.20112E+11	M
RON ON BACK OF TRUCK	M
. HE WAS REMOVING TH	M
	M
	M
IPBOARD. WHEN HE RAISED	M
ROX. 15' W X 55' L X 6' HIC	M
STRIKING INDIVIDUAL IN LEFT	C
5 BRATTICE 61 APPROXIMATEL	M
MEASURES APPROX 20FT	M
f the interlock L conducto	C
fire extinguishers to put	C
3.20063E+11	C
atch it and felt a pull on	C
3.20102E+11	C
ars. Employee had surge	C
3.20122E+11	C
	C
3.2002E+11	C
3.20006E+11	C
3.20013E+11	C
3.20013E+11	C

LOSE CONTROL OF THE HOSE, THE HOSE N

3.20083E+11 C

3.20111E+11 C

tripped over structure and C

3.20162E+11 C

ed next to the pot when the pC

3.20163E+11 C

3.20173E+11 C

3.20182E+11 C

3.20024E+11 M

3.20012E+11 C

ARK. THE FALL HEIGHT WAS

3.20091E+11 C

3.20102E+11 C

C

st the rib. He received two C

trammings. It pulled rock C

3.2014E+11 C

foot and ankle. C

3.20154E+11 C

to be removed by doctoC

3.2016E+11 M

3.20006E+11 C

SEAL. C

3.20041E+11 C

STRUCK THE BEAM WHILE IT W

R BACK. C

3.20053E+11 C

th legs. Results was a strained Clo

inby in the belt entry w C

tor starter. This could cau

C

C

3.20021E+11 C

3.20023E+11 C

3.20053E+11 C

C

3.20082E+11 C

3.20101E+11 C

3.20104E+11 C

ed cutting employee hand. C

employee in the face and C

3.20161E+11 C

frame of machine causing C

t causing fracture to pinky

3.2018E+11 M

alves to close on the Pyro M

3.2015E+11 M
 3.20001E+11 M
 reener lid. Pipe came loose and
 ght eye. M
 3.20002E+11 C
 3.20003E+11 C
 3.20013E+11 C
 C
 3.20031E+11 C
 3.20042E+11 C
 3.20042E+11 C
 3.20051E+11 C
 3.20061E+11 C
 3.20063E+11 C
 isher and it was thrown up
 nder pressure striking the C
 3.2008E+11 C
 3.20091E+11 C
 caught between the roller frame
 was mining. C
 from this injury until 03/ C
 3.20091E+11 M
 ENT WAS CAUGHT. MOVED
 injured in car accident in 2
 3.20023E+11 C
 3.20042E+11 M
 3.20152E+11 M
 dry and irritated, continued to
 3.201E+11 M
 3.20021E+11 M
 tor blade. M
 C
 3.20113E+11 C
 piece of metal chipped off C
 C
 3.20071E+11 M
 3.20082E+11 M
 3.20161E+11 C
 M
 M
 3.20053E+11 M
 3.2007E+11 M
 laceration that required sutures M
 ith day, 5/19/08 looked M
 3.2018E+11 M
 3.20082E+11 M
 the floor below. M

3.20003E+11 M
an errand and accessed thM
3.20171E+11 M
NKLE. M
insect before the beginning M
3.20071E+11 M
and back. M
He turned his truck awayM
3.20083E+11 M

United States Department of Labor

Office of the Chief Information Officer

Privacy Impact Assessment Questionnaire

MSHA Standardized Information System (MSIS) — FY2017

OVERVIEW

Mine Safety and Health Administration (MSHA) Standardized Information System (MSIS) (DOL Unique Identifier DOL-MSHA-MSIS-MA-001) is a web-based application that serves as MSHA's core information management system enabling the agency to accomplish its mission of protecting the health and safety of the nation's miners.

MSIS supports the enforcement of the Mine Act (1977), the MINER Act (2006) and Title 30 Code of Federal Regulations (CFR). It supports a variety of critical functions that encompass the collection and maintenance of data for enforcement of safety and health standards; management of miner and instructor certifications; assessment of violation penalties; management of mine information; processing of contested violations, tracking required mine inspector training, and certification of mining equipment. These functions provide an effective means of reducing the frequency and severity of accidents; minimizing health hazards; and promoting improved safety and health conditions at the nation's 15,000 mines.

The goal of MSIS is to provide a completely integrated, scalable, web-based application incorporating an enterprise-wide data management system enabling MSHA to conduct its mission critical operations effectively, efficiently, and securely.

MSIS is the primary enterprise application framework and data repository for the agency, serving the business needs of five agency program areas: Office of Assessments; Education, Policy & Development; Coal and Metal/Non-Metal Enforcement and Technical Support. MSIS provides the most current industry-wide data available for the Nation's mines publishing it through Data.gov and MSHA's website. With MSIS, MSHA is able closely track safety conditions, efficiently track compliance, identify critical patterns of violations; ensure that mines are inspected on schedule; and support the certification of mining equipment.

MSIS collects and maintains information about mines, mine operations, miner and instructor qualifications and certifications, certification of mining equipment, mine inspections, mine accident, injury, employment and production information, coal dust sampling management, infractions of mandatory safety and health standards, in accordance with mandatory standards, and provides information to assess alleged violations against mine operators and independent contractors. The application is accessible to many of the MSHA program area offices via the agency's intranet.

MSIS supports integration efforts for data sharing among government agencies, to include transfer of docket information with the Federal Mine Safety and Health Review Commission, transfer of debt to Treasury, ability to submit payments via Pay.gov, and is actively involved in discussions of future enhancements to include consolidation of training records in Learning Link.

CHARACTERIZATION OF THE INFORMATION

The following questions are intended to define the scope of the information requested and/or collected as well as reasons for its collection as part of the program, system, or technology being developed.

Specify whether the system collects personally identifiable information (PII) on DOL employees, other federal employees, contractors, members of the public (U.S. citizens), foreign citizens, or minor children.

MSIS collects and maintains information about mines, mine operations, miner and instructor qualifications and certifications, mine inspections, certification of mining equipment, mine accidents, injury, employment and production information, sampling management, infractions of mandatory safety and health standards, in accordance with mandatory standards, and provides information to assess alleged violations against mine operators and independent contractors.

What are the sources of the PII in the information system?

Social Security Administration, MSHA Training Facility, US Mining Community

What is the PII being collected, used, disseminated, or maintained?

MSIS collects Name, Date of Birth, Social Security Number (or other number originated by a government that specifically identifies and individual), Mailing Address, Phone Numbers (e.g., Phone, Fax and Cell), Certificates (e.g., Birth, death, and Marriage), Email Address, Education Records, Tax ID, Employer ID, Authorized Representative #, Right of Entry #.

How is the PII collected?

PII can be collected via multiple vehicles: 1) online forms via eGOV webpage, 2) facsimile, or 3) hard copy paper form submitted via postal mail. All submissions received via facsimile or postal mail are manually entered into MSIS by MSHA authorized employees.

EGOV forms are accessible at: <https://www.msha.gov/forms-online-filing> The following four (4) forms request PII:

- [Legal Identity Report \(2000-7\)](#)
- [Mine ID Request \(7000-51\)](#)
- [Mine Accident Injury and illness Report \(7000-1\)](#)
- [MSHA Individual Identification Number \(MIIN\) \(5000-46\)](#)

How will the information be checked for accuracy?

Prior to any information being inserted into the database, a staging series of authorizations takes place.

What specific legal authorities, arrangements, and/or agreements defined the collection of information?

MSIS supports the enforcement of the Mine Act (1977), the MINER Act (2006) and Title 30 Code of Federal Regulations (CFR).

Privacy Impact Analysis

There are security controls in place to prevent database contamination should nefarious acts be taken against the front-end website. The information has to be reviewed by at least three approving authorities prior to it being introduced and or uploaded into the appropriate database for further analysis and data manipulation. Data extracts are redacted of the PII prior to being released for public consumption.

USES OF THE PII

The following questions are intended to clearly delineate the use of information and the accuracy of the data being used.

Describe all the uses of the PII

As part of the Mine Act and 30 CFR, MSHA uses the MSHA Standardized Information System (MSIS) to gather and manage some PII data. The collection and management of this PII data is required in order to execute responsibilities delineated in the following sections of 30 CFR. These include Part 48, Part 49, Part 50, Part 90, and Part 100. Part 48 and 49 pertain to training, certification and qualification of miners for performing specified duties, both in Coal and Metal/Non-Metal mines. Part 50 pertains to miner accident and injury reporting. Part 90 involves identification and management of miners that have contracted black lung disease. Part 100 involves assessment of civil penalties against violators. In the case of Part 100, the collection of PII data pertains only to instances where the violator (mine operator or contractor) is a sole proprietor. Collection of this information for assessment of civil penalties is also justified under the Debt Collection Act.

What types of tools are used to analyze data and what type of data may be produced?

MSIS provides reporting and query facilities for users. Access to the reports and queries are restricted to certain specified roles. Roles are assigned to users with the approval of the Delegated Requestor who reviews the job description and current responsibilities of the individual to ensure that the roles being requested are consistent and justified. The reports are generated through online reports as well as batch reports. A separate reporting tool is also used for some reports and queries. In all cases, access to the PII data is restricted to authorized individuals. When reports are generated, MSIS does log the username and report as required by OMB 06-16. Data produced is in the form of printed reports, online reports, and data.

Will the system derive new data, or create previously unavailable data, about an individual through aggregation of the collected information?

No

If the system uses commercial or publicly available data, please explain why and how it is used.

MSIS collects and maintains information about mines, mine operations, miner and instructor qualifications and certifications, mine inspections, certification of mining equipment, mine inspections, mine accident, injury, employment and production information, coal dust sampling management, infractions of mandatory safety and health standards, in accordance with mandatory standards, and provides information to assess alleged violations against mine operators and independent contractors.

Privacy Impact Analysis

There are submitting controls in place on the online forms themselves starting with the user community has to have an authenticated user ID and password in order to submit a form for consideration into the staging area, i.e., the approval process for upload to the database. The compensating controls have not allowed any direct access of the data into the backend database queries to take place. Only after the final authorized approval does data get loaded into the database. The three stages of review and approval have to be accomplished before upload of that record is permitted. No sequel injection into the backend database is directly possible through the staging of the data process that has been implemented. No direct data extracts from the database is allowed either. As the data is routed through approving authorities to ensure the recipient is permitted to receive the data in question.

RETENTION

The following questions are intended to outline how long information will be retained after the initial collection.

How long is information retained in the system?

Information is retained for seven (7) years in the backup system and in some cases for longer periods of time if the information is related to a litigation hold. Information within the database is currently retained indefinitely.

Has the retention schedule been approved by the DOL agency records officer and the National Archives and Records Administration (NARA)?

The system of records notice, MSHA 01 has been updated and posted — <https://www.dol.gov/sol/privacy/>

How is it determined that PII is no longer required?

PII data would not be required if it was no longer necessary to maintaining the integrity and accuracy of the database or if it was no longer associated with a critical business process that was part of the Mine Act, MINER Act or 30CFR.

What efforts are being made to eliminate or reduce PII that is collected, stored or maintained by the system if it is no longer required?

MSHA has reduced the repeated request for PII information by implementing the MIIN (Miner Individual Identification Number). This enables miners to submit their PII data once to register themselves with MSHA. Thereafter miners are required only to provide their MIIN number. MSHA currently only collects PII data that is required to carry out its mission.

Privacy Impact Analysis

Data is retained in back up at the approved offsite storage location under contract with a facility approved of by GSA for data retention of Federal records. The transport, distribution and rejuvenation of the data have been tested in accordance with Department policy as well as agency requirements to meet the Federal guidelines in this area.

INTERNAL SHARING AND DISCLOSURE

The following questions are intended to define the scope of sharing within the Department of Labor.

With which internal organization(s) is the PII shared, what information is shared, and for what purpose?

Currently no PII data is shared with any other agencies within the Department of Labor.

How is the PII transmitted or disclosed?

Not Applicable.

Privacy Impact Analysis

Not Applicable.

EXTERNAL SHARING AND DISCLOSURE

The following questions are intended to define the content, scope, and authority for information sharing external to DOL which includes federal, state and local government, and the private sector.

With which external organization(s) is the PII shared, what information is shared, and for what purpose?

Organization: Dept of Treasury

Purpose: Debt collection

Is the sharing of PII outside the Department compatible with the original collection? If so, is it covered by an appropriate routine use in a SORN? If so, please describe. If not, please describe under what legal mechanism the program or system is allowed to share the PII outside of DOL.

The Debt Collection Act covers collection of this data. MSHA transfers outstanding delinquent debt for payment of penalties to Department of Treasury for collection. Specifically, in the case of sole proprietorship mine operators and mine contractors, the tax ID number used would be the individual's SSN.

How is the information shared outside the Department and what security measures safeguard its transmission?

The data is transferred via secure FTP (SFTP) to Department of Treasury. Treasury provides certification of transfer and processing. The data is then handled consistently with other privacy data managed by that department.

Privacy Impact Analysis

MSHA transfers this data securely via SFTP. Treasury sends a notification that the data has been transferred safely and that it has been processed into their system.

NOTICE

The following questions are directed at notice to the individual of the scope of PII collected, the right to consent to uses of said information, and the right to decline to provide information.

Was notice provided to the individual prior to collection of PII?

Yes, there is a Privacy notice on the webpage as well as instructions for filling out of the forms prior to submitting; in one of four ways: online, facsimile, mail, or in person.

Do individuals have the opportunity and/or right to decline to provide information?

Yes

Do individuals have the right to consent to particular uses of the information? If so, how does the individual exercise the right?

30 CFR Part 48 and Part 49 require miners to get a certification in order to perform certain activities such as electrical work. In order to qualify for these certifications, MSHA also requires miners to provide PII data. Individuals submitting information and requesting certification are consenting to the propose use of their PII in order to obtain the certification.

30 CFR Part 90 is the authority used to solicit privacy information from individuals who chose to participate in the Part 90 program. This program is entirely voluntary.

30 CFR Part 100 and the Debt Collection Act is the legal authority under which MSHA collects PII data from individuals who are sole proprietors as mine operators or contractors.

The forms (paper and online) have clearly the privacy act notices displayed for all users to access and determine their individual rights in submitting PII data.

Privacy Impact Analysis

The privacy act notice is clearly displayed both in MSIS and online forms for external users.

ACCESS, REDRESS, AND CORRECTION

The following questions are directed at an individual's ability to ensure the accuracy of the information collected about them.

What are the procedures that allow individuals to gain access to their information?

Users must access the EGov website utilizing a valid ID and password in order to view, make changes and provide updates to their information on file.

What are the procedures for correcting inaccurate or erroneous information?

Electronic filers may correct their information online as described above. MSIS Data management staff conducts regular quality reviews to identify and correct erroneous information. There are three stages of review prior to actual data going into the database and most if not every error is caught at one of these three levels.

How are individuals notified of the procedures for correcting their information?

Once external individuals log in to the system, they do have the ability to change their PII information if they so choose. Whenever individuals receive mailings from the system, they are furnished with instructions regarding contact information if data is incorrect. This applies to both recipients of civil penalties and those receiving certifications or qualifications from MSHA

If no formal redress is provided, what alternatives are available to the individual?

N/A

Privacy Impact Analysis

Users have the ability to correct their privacy data online through the eGov registration process. For information such as certifications that are provided to individuals, instructions are furnished with the mailings that specify who to contact when corrections are necessary. Typically this would rely on contact over the phone or through the mail.

TECHNICAL ACCESS AND SECURITY

The following questions are intended to describe technical safeguards and security measures.

What procedures are in place to determine which users may access the system and are they documented?

A valid user name and password is used in the Active Directory, which is authenticated across the Domain to prevent those from other Domains from breaching the security of the system through the web interface. Suspicious activity reports are generated and reviewed which track failed logon attempts.

Will Department contractors have access to the system?

Yes

Describe what privacy training is provided to users, either generally or specifically relevant to the program or system?

As annual PII training is provided through department, the user community is also given periodic updates through e-mails from the CIO reminding them of their responsibility in the area of privacy and privacy issues. MSHA also provides initial awareness training before setting up a new access account and requires that the user provide validation of completing their training which is kept on file.

What auditing measures and technical safeguards are in place to prevent misuse of data?

All users are authenticated and should the unlikely event a user acquires sign on privileges their activities are logged while they are on the system. Each entry into the system does not automatically get loaded into the backend databases. There are intermediate steps and precautionary steps, compensating controls in place to prevent the misuse of the system and infecting or disrupting of the system by nefarious acts of unauthorized or malicious users who are authorized to use the system.

Privacy Impact Analysis

Given the three stage process prior to data upload, no direct access to the database by the external user community, and the logging of user's actions once they have been authenticated the controls are in place and function to ensure adequate measures have been taken to protect the PII of this system.

TECHNOLOGY

The following questions are directed at critically analyzing the selection process for any technologies utilized by the system, including system hardware, RFID, biometrics, and other technology.

What stage of development is the system in, and what project development life cycle was used?

The system is in a mixed phase of development. Some features of the system are DME (Development Modernization and Enhancement) while other established functions are in the Operations & Maintenance Phase. The DOL System Development Lifecycle Management Manual is used for the project development.

Does the project employ technology which may raise privacy concerns? If so please discuss their implementation?

No

DETERMINATION

As a result of performing the PIA, what choices has the agency made regarding the information technology system and collection of information?

MSHA has completed the PIA for MSHA Standardized Information System (MSIS) which is currently in operation. MSHA has determined that the safeguards and controls for this moderate system adequately protect the information.

MSHA has determined that it is collecting the minimum necessary information for the proper performance of a documented agency function.

AFSCME

Eunice Salcedo,

Received 5-30-2019

May 30, 2019

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Cal/OSHA Advisory Committee
Department of Industrial Relations
Division of Occupational Safety & Health
1515 Clay Street, Suite 1901
Oakland, California 94612

RE: Electronic Reporting of Workplace Injury and Illness Data

The American Federation of State, County and Municipal Employees (AFSCME) represents 1.3 million workers in the public and private sector including 180,000 university, home care, health care and municipal employees in California. AFSCME strongly supports the Improve Tracking of Workplace Injuries and Illnesses rule in California.

The Improve Tracking of Workplace Injuries and Illnesses provisions will facilitate the identification of dangerous workplaces, classification of injuries and the safety and health hazards that caused the injuries.

The regulation requires establishments with 250 or more employees to electronically submit data to the Occupational Safety and Health Administration (OSHA). OSHA identified the following benefits of electronic recordkeeping in the final rule:

- improved compliance with OSHA's statutory directive "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources" (29 U.S.C. 651(b));
- increased prevention of workplace injuries and illnesses as a result of expanded access to timely, establishment-specific injury/illness information by OSHA, employers, employees, employee representatives, potential employees, customers, potential customers, and researchers; and
- promotion of complete and accurate reporting of work-related injuries and illnesses.

A 2009 Government Accounting Office (GAO) report, along with numerous published studies, documented that many workplace injuries are not adequately reported on employers' recordkeeping logs required by OSHA and under-reported to the Bureau of Labor Statistics (BLS), resulting in a substantial undercount of occupational injuries in the United States¹.

Although most public employers use some type of electronic data system, many smaller municipalities and school districts maintain paper log sheets. AFSCME has reviewed paper OSHA logs in injury investigations and grievance complaints and can attest to the inaccuracy or incompleteness of many employer logs. Requiring employers to transition to electronic reporting will lead to more timely and accurate data available to our members and their representatives.

¹The Government Accountability Office (2009). Enhancing OSHA's Records Audit Process Could Improve the Accuracy of Worker Injury and Illness Highlights of GAO-10-10, a report to Data. <https://www.gao.gov/new.items/d1010.pdf>

Underreporting of injuries and illnesses is a serious problem and AFSCME urges Cal/OSHA not only to keep the electronic recordkeeping rule but also ensure that when a worker reports an injury they are adequately protected from any retaliation.

While retaliation against workers for reporting injuries is a violation of 11(c), employer actions or policies that impose barriers to reporting or discourage reporting should also be a violation of injury recordkeeping rules. Provisions should require that any injury and illness reporting requirements established by the employer be reasonable and not unduly burdensome. This does not mean that employers cannot require the prompt reporting of injuries. However, not all injuries or health effects are present immediately and not all employees work in centralized locations.

Additionally, the electronic submission requirements do not add to or change the employer's obligation to complete and retain injury and illness records under current Cal/OSHA regulations. It simply modifies the way in which these records are submitted. Several government agencies also require electronic submission of records and/or some level of reporting annually, quarterly, monthly and, in some cases, biweekly. The Federal Elections Commission requires federal candidates to disclose their political contributions on a quarterly basis. During an election year, these candidates are required to disclose their contributions monthly and, in some cases, biweekly.² The Security and Exchange Commission requires publicly traded companies to disclose information on an ongoing basis. For example, domestic issuers (other than small business issuers) must submit annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, for several specified events and must comply with a variety of other disclosure requirements.³

The Equal Employment Opportunity Commission (EEOC) collects workforce data from employers with more than 100 employees, with lower thresholds applied to federal contractors. Employers meeting the reporting thresholds have a legal obligation to provide the data; it is not voluntary. EEOC data is collected using electronically submitted reports and is used for a variety of purposes including enforcement, self-assessment by employers and research. These reports collect data about gender and race/ethnicity by some type of job grouping. The Department of Labor, Office of Labor Management Standards (OLMS), requires that Form LM-2 be filed electronically using the OLMS Electronic Forms System. The Electronic Forms System is a web-based system for completing, signing and submitting Labor Organization Annual Financial Reports. The OLMS and the EEOC have moved to electronic filing systems that are downloadable, sortable and available to the public. There is no reason for Cal/OSHA to rely on the ineffective method of paper filing, especially when other departments at the Department of Labor are already requiring electronic reporting.

Access to illness and injury data will promote workplace safety and health by requiring the timely collection of useful, accessible, establishment-specific injury and illness data. We believe it is crucial that OSHA maintain and enforce its current regulation with respect to recordkeeping which is fully within Cal/OSHA's authority and responsibility. Any attempts to weaken the rule in California should be abandoned. Having access to the most current data possible gives Cal/OSHA the ability to respond to hazardous workplace conditions and help facilities make necessary changes to keep workers safe.

Sincerely,



Eunice Salcedo
Health and Safety Specialist
Research and Collective Bargaining Services

ES/dd

Cc: Dalia Thornton

² Federal Election Commission, (2014) Reporting Dates http://www.fec.gov/info/report_dates.shtml 2334 Comments Page No. 000263

³ United States Securities and Exchange Commission, Filings and Forms (2017), <http://www.sec.gov/edgar.shtml>.

Arden Towne
Satender Bains,

Received 2-6-2019

Nguyen, William@DIR

From: Arden Towne <ardentowne@gmail.com>
Sent: Wednesday, February 6, 2019 3:56 PM
To: DIR Electronic Reporting
Subject: small bsuniess

As a small business i would ask the form 300 not be electronic because

-administration cost. my employees are not computer savvy
-to teach and update the way we document form 300 with 20 employees that we currently have,
will cost us time and money.

Satender

--

Truly yours,
Satender Bains (sunny)

California Labor Federation

Shawna Manning/Mitch

Steiger,

Received 5-31-2019



May 31, 2019

Mr. Glenn Shor
Department of Industrial Relations
Division of Occupational Safety and Health
1515 Clay Street, Suite 1901
Oakland, CA 94612
(Via Email at: ElectronicReporting@dir.ca.gov)

RE: **Electronic Reporting of Workplace Injury and Illness Data**

Dear Mr. Shor and Cal/OSHA:

The California Labor Federation supports a regulatory requirement that any employer with over 100 employees electronically submit information from their Cal/OSHA Form 300s (Logs of Work-Related Injuries and Illnesses) and Form 301s (Injury and Illness Incident Reports).

On the long list of actions taken by our current president to harm worker health and safety, the decision to rescind large employer electronic injury and illness reporting rules is arguably the most insidious and the most thoughtless. The weakening of this standard, dishonestly packaged as a move to protect worker privacy, will instead jeopardize worker safety while saving employers neither time nor money. This is simply shortsighted and thoughtless policymaking at its worst, leaving us responsible at the state level to step in as soon as possible to undo the damage.

The federal standard would have required employers with over 250 employees to electronically submit Form 300s and Form 301s to federal OSHA and allowed any interested party access to these details. This would have opened up a wide variety of research and enforcement possibilities that regulators, researchers, labor unions, individual workers, and others could have used to improve injury prevention efforts in a variety of ways. The standard also would have both prohibited employers from submitting workers' personal information and public agencies from displaying it, should it be submitted anyway, explicitly protecting worker privacy.

Notably, the decision to repeal this landmark protection also did not benefit law-abiding employers in any way. Employers already prepare both 300s and 301s, they already must make 300s available to workers, and they already must give all such forms to Cal/OSHA officials during inspections. If anything, the lack of an electronic submittal option will *increase* the time necessary to prepare such forms.

Finally, it goes without saying that such transparency efforts—and the resulting greater attention to injury prevention—benefit both worker and employer, as an employer who must post 300s online for all to see will likely be more attentive to health and safety than an employer who does not. This greater focus will prevent countless illnesses, injuries, and even fatalities, allowing more workers to come home safely to their families and more employers to avoid the expense and time of Cal/OSHA inspections, fines, and workers' compensation claims. The benefits offered by this standard extend to all involved, and a similar proposal should be added to Cal/OSHA's agenda.

Our only objection to the federal regulation is that the 250-employee threshold leaves out far too many workers by only applying to .3% of employers and 13.6% of workers. Lowering this threshold to 100 workers would drastically improve the utility and statistical reliability of the data while giving those interested in injury prevention far more information with which to prioritize efforts. But, overall, we believe the federal standard offers a great starting point for our state to begin undoing the damage caused by this repeal.

We urge you to begin the process of drafting and adopting such regulations.

Sincerely,



Mitch Steiger
Legislative Advocate
ms/tng39521/afl-cio
SM: OPEIU 29 AFL CIO

California Nurses Association/
National Nurses United

Saskia Kim

Received 5-31-2019



**California
Nurses
Association**



**National
Nurses
United**

A Voice for Nurses. A Vision for Health Care.

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May 31, 2019

Department of Industrial Relations, Division of Occupational Safety & Health
Elihu Harris State Building
1515 Clay Street
Oakland, CA 94612
Attn: Glenn Shor
VIA EMAIL: ElectronicReporting@dir.ca.gov

RE: Electronic Submission of Workplace Injury and Illness Records

The California Nurses Association/National Nurses United (CNA/NNU), representing more than 100,000 California registered nurses, writes in support of a requirement that employers be required to electronically submit injury and illness data to the Division of Occupational Safety & Health (Cal/OSHA).

Under Labor Code section 6410.2, Cal/OSHA must convene an advisory committee to “evaluate how to implement the changes necessary to protect the goals of the Improve Tracking of Workplace Injuries and Illnesses rule, as issued May 12, 2016.” In response to the Advisory Committee meeting held on May 9, 2019 and the subsequent request for comments, CNA/NNU provides the following comments which outline the goals of the Improve Tracking of Workplace Injuries and Illnesses rule (“Federal Rule”) as issued on May 12, 2016, in 81 Fed. Reg. 29,624, identify the changes necessary to protect those goals, and respond to concerns raised. As detailed below, CNA/NNU also requests Cal/OSHA consider expanding the scope of any rule so that additional employees are covered by its protections.

- **Goals of Improve Tracking of Workplace Injuries and Illnesses Rule, As Issued May 12, 2016**

With respect to electronic data collection and the publication of that electronic data, the following goals were described in the Federal Register in the May 12, 2016 publication of the Federal Rule:

d. Benefits of Electronic Data Collection. The main purpose of this section of the final rule is to prevent worker injuries and illnesses through the collection and use of timely, establishment-specific injury and illness data. With the information

obtained through this final rule, employers, employees, employee representatives, the government, and researchers may be better able to identify and mitigate workplace hazards and thereby prevent worker injuries and illnesses. . . .

As described above, OSHA currently has very limited information about the injury/illness risk facing workers in specific establishments, and this final rule increases the agency's ability to target those workplaces where workers are at greatest risk. However, even with improved targeting, OSHA Compliance Safety and Health Officers can inspect only a small proportion of the nation's workplaces each year, and it would take many decades to inspect each covered workplace in the nation even once. . . . Specifically, the final rule recognizes that public disclosure of data can be a powerful tool in changing behavior. In this case, the objective of disclosure of data on injuries and illnesses is to encourage employers to abate hazards and thereby prevent injuries and illnesses, so that the employer's establishment can be seen by members of the public, including investors and job seekers, as one in which the risk to workers' safety and health is low. OSHA believes that disclosure of and public access to these data will (using the word commonly used in the behavioral sciences literature) "nudge" some employers to abate hazards and thereby prevent workplace injuries and illnesses, without OSHA having to conduct onsite inspections . . .

On December 8, 2009, OMB issued a Memorandum for the Heads of Executive Departments and Agencies, Open Government Directive, which requires federal agencies to take steps to "expand access to information by making it available online in open formats." The Directive also states that the "presumption shall be in favor of openness (to the extent permitted by law and subject to valid privacy, confidentiality, security, or other restrictions)." In addition, the Directive states that "agencies should proactively use modern technology to disseminate useful information, rather than waiting for specific requests under FOIA." . . . Furthermore, without access to establishment-specific injury and illness data, OSHA has had great difficulty evaluating the effectiveness of its enforcement and compliance assistance activities. . . .

Publication of worker injury and illness data will encourage employers to prevent injuries and illnesses among their employees through several mechanisms: First, the online posting of establishment-specific injury and illness information will encourage employers to improve workplace safety and health to support their reputations as good places to work or do business with. . . . Second, these data will be useful to employers who want to use benchmarking to improve their own safety and health performance. . . . Using data collected under this final rule,

employers can compare injury and illness rates at their establishments to those at comparable establishments, and set workplace safety/health goals benchmarked to the establishments they consider most comparable.

Third, online availability of establishment-specific injury and illness information will allow employees to compare their own workplaces to the safest workplaces in their industries. . . . Uninhibited access to the information will allow employees in these establishments to better identify hazards within their own workplace and to take actions to have the hazards abated. . . . Fourth, access to these data will improve the workings of the labor market by providing more complete information to job seekers, and, as a result, encourage employers to abate hazards in order to attract more desirable employees. . . . Fifth, access to data will permit investors to identify investment opportunities in firms with low injury and illness rates. . . . Sixth, using data collected under this final rule, members of the public will be able to make more informed decisions about current and potential places with which to conduct business. . . .

Disclosure of and access to injury and illness data have the potential to improve research on the distribution and determinants of workplace injuries and illnesses, and therefore to prevent workplace injuries and illnesses from occurring. Like the general public, researchers currently have access only to the limited injury/illness data described above. Using data collected under this final rule, researchers might identify previously unrecognized patterns of injuries and illnesses across establishments where workers are exposed to similar hazards. . . .

Furthermore, because the data will be publicly available, industries, trade associations, unions, and other groups representing employers and workers will be able to evaluate the effectiveness of privately-initiated injury and illness prevention initiatives that affect groups of establishments. . . .

e. Publication of Electronic Data. As discussed above, OSHA intends to make the data it collects public. As discussed below, the publication of specific data elements will in part be restricted by applicable federal law, including provisions under the Freedom of Information Act (FOIA), as well as specific provisions within part 1904. . . .

While OSHA intends to make the information described above generally available, the Agency also wishes to emphasize that it does not intend to release personally identifiable information included on the forms. For example, in some cases, information entered in Column F (Describe injury or illness, parts of body

affected, and object/substance that directly injured or made person ill) of the 300 Log contains personally-identifiable information, such as an employee's name or Social Security Number. As a result, OSHA plans to review the information submitted by employers for personally identifiable information. As part of this review, the Agency will use software that will search for and de-identify personally identifiable information before OSHA posts the data.¹

- **Changes Necessary to Protect the Goals of Improve Tracking of Workplace Injuries and Illnesses Rule, As Issued May 12, 2016**

The utility and importance of detailed data on injuries and illnesses—and, significantly, the reporting and public disclosure of such data—cannot be understated. First and foremost, the kind of data collection and reporting required under the Federal Rule would enable Cal/OSHA, workers, unions, employers, researchers, and myriad other federal, state, and local agencies to better develop laws and protections to prevent worker injuries and illnesses. The rule is simple—employers would be required to electronically submit information they already maintain to the Division, and Division would make that information easily accessible to the public by making that data available electronically on its website.

With detailed information about workplace injuries and illnesses, these groups—government, workers and their representatives, and employers alike—are given the tools to more effectively and promptly identify and mitigate workplace hazards. Mandatory reporting and collection of detailed injury and illness data would vastly improve public access to information that employers have maintained under long-existing recordkeeping requirements. Public posting of this data would enable workers and their representatives to better understand the scope of injuries and illnesses in particular work sites and to do so in a more timely and efficient manner. For nurses, patterns of injury and illness could be identified, compliance with existing standards could be more efficiently examined, and emerging occupational risks could be better evaluated. When action to correct workplace safety and health hazards is inefficient or delayed, workers are unnecessarily exposed to predictable and preventable hazards. Delays in correcting a workplace hazard pointlessly cost the lives, limbs, and livelihoods of CNA/NNU members and other workers.

Without a requirement that employers electronically submit injury and illness data to the Division and that information be made publicly available, Cal/OSHA will continue to have limited data regarding occupational injuries and illnesses in specific workplaces or establishments. Collecting this data would enable Cal/OSHA to effectively target Division resources and its inspection activities to most effectively protect the greatest number of workers

¹ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29,624, at 29,626-32 (May 12, 2016).

from occupational hazards. Public posting of this data would additionally enable other stakeholders—such as unions, researchers, and employers—to better understand the scope of injuries and illnesses in particular work sites and to improve health and safety conditions in those work sites.

Importantly, adopting a requirement that employers electronically provide the Division with injury and illness data and the associated publication of that data not only would make accessible critically important data that would enhance Cal/OSHA’s enforcement programs, but it also would inform and support the Division in carrying out the Legislative intent codified in Labor Code section 6410.1 that “the division maintain strong workplace injury and illness reporting standards.” As the Legislature declared in Section 1 of AB 2334, detailed injury and illness records—although maintained by employers—are currently “not accessible to the public and prospective employees in an easily accessible database on the internet.” To resolve this issue, the Legislature’s mandate for the Division in AB 2334 is clear: implement the federal rule to improve tracking of workplace injuries and illnesses so that workplace injury and illness reporting is “robust and easily accessible.”

As bedside nurses, CNA/NNU members experience high rates of injuries and illnesses. In 2016, rates of nonfatal injuries and illness that involved days away from work for RNs number over 110 cases per 10,000 full-time nurses. Injuries due to workplace violence for RNs numbered at 16.7 per 10,000 full-time nurses. RNs experienced overexertion and similarly bodily injuries at 46.9 per 10,000 full-time nurses and experienced musculoskeletal disorders at 45.2 per 10,000 full-time nurses. These injuries and illnesses remain undercounted.

Requiring employers to electronically submit injury and illness data would also strengthen Cal/OSHA’s ability to document and analyze the workplace hazards that RNs face, and it would enable Cal/OSHA to more effectively develop standards to protect RNs from harm on the job. The numbers above are staggering for CNA/NNU’s members, but information on the rates of injury and illness fail to contain the detailed information needed to develop workplace health and safety standards for nurses and other healthcare workers. Collecting detailed injury and illness data would give Cal/OSHA access to a vast amount of detailed injury data required for its much needed standards-making efforts. Nurses and all other healthcare workers deserve to be safe while healing others, and they deserve protections which are supported by “strong workplace injury and illness reporting standards,” as envisioned by the Legislature under Labor Code section 6410.1.

- **Response to Concerns Raised**

Several concerns were raised at the Division’s May 9, 2019 Advisory Committee meeting, including that requiring electronic submission of injury and illness records might threaten

workers' privacy. This is a specious argument given that both federal and California laws—as well as provisions of the Federal Rule—already address this very issue. In fact, OSHA took pains to establish employee privacy protection in the Federal Rule, and similar measures can be adopted by the Division in its rule on mandatory electronic reporting of detailed injury and illness data.

In crafting the Final Rule, OSHA understood the need to balance worker privacy with enforcement of health and safety protections for workers on the job and, as a result, the Agency built the Final Rule's electronic reporting requirements to have multiple layers of protections against disclosure of workers' personally identifiable information. In response to comments regarding employee privacy concerns in the collection of injury and illness data, OSHA rightly recognized in the Federal Rule that FOIA already restricts the publication of specific data elements to protect individuals.²

Cognizant of worker privacy concerns, OSHA also included protections for individual worker's privacy in Section 1904.35 of the Federal Rule. The Agency described at length how privacy protections already operate when such data is collected for enforcement cases and how those privacy protections would operate under the electronic reporting rules, stating in the Federal Rule:

The Agency currently occasionally collects [Form 301] for enforcement case files. OSHA generally releases these data in response to FOIA requests. Section 1904.35(b)(2)(v)(B) prohibits employers from releasing the information in Fields 1 through 9 (the left-hand side of the form) to individuals other than the employee or former employee who suffered the injury or illness and his or her personal representatives. Similarly, *OSHA will not publish establishment-specific data from the left side of Form 301. OSHA does not release data from Fields 1 through 9 in response to FOIA requests . . .* Note that OSHA will not collect or publish Field 1 (employee name), Field 2 (employee address), Field 6 (name of treating physician or health care provider), or Field 7 (name and address of non-workplace treating facility).³

OSHA made clear that the Agency currently exercises effective measures to protect employee information collected in detailed injury and illness forms in response to FOIA requests. The Federal Rule set clear measures to nullify the potential for disclosure of sensitive worker information. Not only do existing OSHA regulations on recording information on Form 300 and Form 301 protect against the disclosure of sensitive worker information, it bears repeating that

² *Id.* at 81 Fed. Reg. 29632-33.

³ *Id.* at 81 Fed. Reg. 29632 (emphasis added).

OSHA would not release the left-hand column from Form 301. The fields in the left-hand column of the Form 301, include:

- Field 1: The full name of the employee
- Field 2: The address of the employee
- Field 3: The employee's date of birth
- Field 4: The employee's date of hire
- Field 5: The gender of the employee
- Field 6: The name of the treating physician or other health care professional
- Field 7: The location of the treatment
- Field 8: Whether treatment was in an emergency room
- Field 9: Whether the employee was hospitalized overnight as an in-patient

Indeed, under the Federal Rule, OSHA would not even have collected the data in Fields 1, 2, 6, or 7 from employers.

Similar protections exist at the state level. For example, the California Public Records Act (PRA) specifically provides “[p]ersonnel, medical, or similar files, the disclosure of which would constitute an unwarranted invasion of personal privacy” are not required to be disclosed under the act.⁴ The PRA also exempts “[r]ecords, the disclosure of which is exempted or prohibited pursuant to federal or state law . . .”⁵

In addition, Cal/OSHA’s own regulations on Employer Records of Occupational Injury or Illness also provide worker privacy protections regarding the information contained on Cal/OSHA’s forms. For example, Title 8 CCR sections 14300.29 and 14300.35 allow employers to either not include certain private information in the first place on Cal/OSHA’s Form 300 Log of Work-related Injuries and Illnesses or redact personally identifying information from its Form 301 Injury and Illness Incident Reports.

As a result, it is clear there are ways to address any worker privacy concerns while at the same time carrying out the Legislative intent stated in Labor Code section 6410.1 that “the division maintain strong workplace injury and illness reporting standards.”

- **Cal/OSHA Should Consider Expanding the Scope of Any Rule In Order to Protect Additional Workers**

In order to sufficiently protect California’s workers, CNA/NNU recommends Cal/OSHA expand the scope of any rule promulgated to apply to establishments with 100 or more employees or

⁴ Government Code section 6254(c).

⁵ Government Code section 6254(k).

employers who employ more than 500 employees statewide. Such an expansion would further the intent of the Legislature that “the division maintain strong workplace injury and illness reporting standards.”⁶ If the Federal Rule had been fully implemented, over 300 hospitals in California would have had to comply with electronic reporting requirements, covering over 381,000 hospital employees.⁷ Expanding a reporting rule to also include establishments with 100 or more employees would add an additional 60 hospitals and protect nearly 10,000 additional hospital employees.⁸

Moreover, in recent years, the number of hospital closures or consolidations has increased. In many cases, smaller clinics have opened to provide outpatient services. While these individual clinics may have fewer than 100 employees, they are often part of a much larger healthcare system that would be able to meet electronic reporting requirements for all of their California establishments. As a result, it is important to provide protections to these employees by ensuring employers with more than 500 employees statewide must also electronically submit injury and illness data.

Thank you for your consideration of CNA/NNU’s comments.

Sincerely,

CALIFORNIA NURSES ASSOCIATION/
NATIONAL NURSES UNITED



Stephanie Roberson
Director, Government Relations

⁶ Labor Code section 6410.1.

⁷ California Employment Development Department, Labor Market Information Division. “Size of Business Data for California (Quarterly), Qtr 2, 2018.” (2018), available at https://www.labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data_for_CA.html.

⁸ *Id.*

NIBBI

Cassie Hilaski,

Received 5-17-2019

From: [Cassie Hilaski](#)
To: [DIR Electronic Reporting](#)
Subject: Comments
Date: Friday, May 17, 2019 9:52:20 AM
Attachments: [image001.png](#)
[image002.wmz](#)
[image006.png](#)
[image007.png](#)

I spoke at last week's Advisory Committee Hearing.

However, I wanted to add one further comment:

Please consider the potential of the sinister situation in which an employer uses the public information reported in the OSHA 300 and 301 logs to prescreen potential employees. An employer could reference this database as part of their hiring procedure to check if an employee has been hurt elsewhere before....and use that information to decide against hiring that person.

This is another example of how the information could be abused by those with less than altruistic motives.

It is important to protect the identities of the workers when moving forward with this potential regulation.

Thank you,

Cassie Hilaski

Director of Environmental Health and Safety
415.287.1590 (direct) 408.595.4047

California Rural Legal
Assistance Foundation

Anne Katten,

Received 5-30-2019



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May 30, 2019

Glenn Shor
Division of Occupational Safety and Health
1515 Clay Street, Suite 1901
Oakland, CA 94612
Via: ElectronicReporting@dir.ca.gov

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Mr. Shor,

California Rural Legal Assistance Foundation (CRLAF) submits the following comments regarding Electronic Reporting of Workplace Injury and Illness Data. CRLAF is a statewide, non-profit legal aid organization providing free legal services and policy advocacy for California's rural poor. Our mission is to achieve social justice and equity in partnership with farm workers and all low-wage workers and their families in rural communities through community, legislative and legal advocacy.

We support a requirement that employers electronically submit information from Cal/OSHA Form 300 (Log of Work-Related Injuries and Illnesses) and Form 301 (Injury and Illness Incident Report) for establishments with 250 or more employees. This action is needed to restore recently rescinded provisions of the federal OSHA recordkeeping regulations. In addition, we believe that this information should be made available to the public and that the size threshold should be reduced to include establishments with 100 or more employees, to cover substantially more of the workforce and to increase transparency to the public of injury and illness data.

Agriculture has among the highest rates of workplace injury and fatality in California. While only a small percentage of agricultural businesses employ more than 100 employees at one field or other establishment, these include large packing houses and field harvest and packing operations where risk of heat illness, machinery operation and repetitive motion injuries are high. Requiring electronic reporting of detailed injury and illness information for establishments with 100 or more employees will provide the Division, researchers, workers, advocates and employers with access to data that can be used to better target enforcement, improve safety programs and determine areas where more protective regulations are needed.

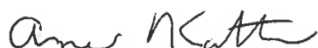
Anticipating the Trump Administration's rollback of electronic reporting requirements, in 2018 Governor Brown signed into law AB 2334 (Thurmond), which requires Cal/OSHA to "evaluate how to implement the changes necessary to protect the goals of the Improve Tracking of Workplace Injuries and Illnesses rule." Consistent with the intent of AB 2334, it is important that Cal/OSHA restore to California workers, researchers, and enforcement personnel access to this data.

Without the reporting requirements that have been stripped from the federal electronic reporting rule, Cal/OSHA will only receive summary data on the total numbers of injuries, illnesses, and hours worked at these establishments. While the summary data are important, the employers' Form 300 logs and Form 301 Incident Reports contain additional useful information about the types and causes of the injuries/illnesses at these sites. This will allow Cal/OSHA, workers, advocates, researchers, and professionals to access industry-specific data that will help us to identify workplace hazards, target preventive outreach and enforcement, and guide and stimulate prevention efforts. Additionally, expanding the pool of workplaces required to report from establishments with more than 250 workers to establishments with more than 100 workers will further improve the pool of data and the positive impact this data will have on worker safety and health.

The privacy concerns cited by federal OSHA and raised by those who oppose the adoption of these reporting requirements are unfounded. The 2016 federal final rule was designed specifically to protect workers' privacy. It stated that no information that would identify individual workers was required to be reported. Similar precautions should be included in a California rule. Given that the identity of workers suffering injuries of a sensitive or potentially embarrassing nature are not required to be included in the employer's OSHA injury logs in the first place, and that the rule provides for the redaction of employee names and addresses from data reported to OSHA, we see no basis for objections based upon privacy concerns.

For these reasons, we urge the agency to move forward with rulemaking that restores the reporting requirements of OSHA's 2016 final rule and expands its scope to include establishments with more than 100 employees.

Sincerely,



Anne Katten, MPH
Pesticide and Work Safety Project Director
California Rural Legal Assistance Foundation

Change to Win

Eric Frumin,

Received 5-31-2019

Change to Win Talking Points in Support of Cal/OSHA Rule on Employer Reporting of Detailed Data on Workplace Injuries and Illnesses

Oakland, CA; May 9, 2019

OSHA's recent repeal of key portions of the 2016 Injury Tracking Rule of Workplace Injuries and Illnesses is a major step backward in our nation's urgent efforts to find the most common and serious safety and health threats to workers, and to get employers to fix them.

When Federal OSHA issued this rule, Change to Win and its affiliates SEIU and the Teamsters strongly supported it, and we are here today to strongly support CalOSHA's efforts to adopt the full rule in California.

Last year, the California legislature spoke loudly and clearly about the need to do just that. As d

“The Legislature finds and declares ...

b) [that the OSHA] rule is an important step to improve workplace safety through expanded access to timely, establishment-specific injury and illness information for employers, employees, employee representatives, potential employees, customers, and public health researchers.

e) While posting of injury information at each worksite is important, specific workplace injury and illness information is not accessible to the public and prospective employees in an easily accessible database on the Internet.

(f) ... there is no requirement that such records or their related annual summaries be separately provided by [reporting employers] to or maintained by a central clearinghouse, where the public may view, sort, and track the information in an easily accessible format online.

(g) Workplace illness and injury reporting should be robust and easily accessible [with] Public access ...”

Most employers have kept these records on-site for decades. But unless a CalOSHA inspector requested them during an inspection, CalOSHA never saw them.

Otherwise, during this time, only individual workers – or their unions if they had one – could even request copies of these records at the workplace. And as the Teamster and SEIU representatives are describing here today, even such legally-supported requests have been met with hostility by some employers – employers who should certainly know better.

Cal/OSHA can now collect these same data electronically from these same large employers, and it is high time that CalOSHA do so.

But some employers are not content to merely ignore their legal obligation to provide these records to their own employees. They have gone further and retaliated against workers who have made such requests.

For instance, The Eulen Group is a large, multi-national supplier of support services to airlines at many of the biggest airports in the nation, including LAX and Long Beach. Headquartered in Spain, it says it has more than 7,000 clients in 14 countries, more than 90,000 employees – including 3000 in the US, and reports 2017 sales of over 1.5 billion euros.

Recently, Eulen workers at three different US airports requested the OSHA 300 logs, and the company has failed to provide the logs to any of these workers. However, in Miami, after a ramp agent named Estaban Barrios requested the Logs and the company promised to mail the logs to

him, he discovered that he had suffered a pay cut and the company had imposed an undesirable schedule change.

Such interference in workers' rights by large employers in highly regulated, safety-sensitive industries like air transport is inexcusable. But it is also a good indicator of the urgency of CalOSHA's efforts to deter such law-breaking by other less visible employers in dangerous industries.

Federal OSHA claims it repealed the collection of detailed injury data to protect workers' privacy, and because the data is not useful to OSHA. We strongly disagree.

When issuing the rule in 2016, OSHA first directed employers **not to even report** workers names or other details that could identify individual workers.

I can also personally assure CalOSHA that in my over 40 years of assisting both unionized and non-union workers requesting and using these Logs, there have been no problems with worker complaints about privacy violations.

Indeed, during the federal OSHA rulemaking, I challenged the Chamber of Commerce and other opponents of this rule to name a single incident in all the years that unions and workers have been receiving copies of the Logs, and they failed to do so.

Instead, we have seen major employers simply ignore the important value of these data for prevention purposes, even when we have analyzed their own data for them. In 2010, I and other performed a detailed study in the hotel industry relying largely on the Form 300 logs of the five largest hotel companies in the nation, whose properties accounted for over 70% of the "full-service" hotel rooms in the nation. It involved nearly 3,000 injuries over a 3-year period. In its proposed and final versions of the Injury Tracking rule, OSHA explicitly acknowledged this study as an example of the "research on workplace safety and health in the US," using the data in the OSHA/BLS data system (78 FR 67276 and 81 FR 29685)

This landmark study – the first of its kind – examined the issue of race or gender discrimination in the creation of workplace hazards, and produced some remarkable findings, such as:

- Women workers overall and Asian and Hispanic men were about 1.5 times more likely to have been injured
- Female housekeepers had about three times the risk of injury than male housekeepers, and Hispanic housekeepers were 70% more likely to be injured than white female housekeepers.
- The study found injury rates in some companies double or more than at comparable employers in the same industry.

To the best of our knowledge, none of the companies involved have since provided publicly any further analysis of the underlying data which would change these results or conclusions – even for their own companies.

These data are also important for OSHA and CalOSHA to use in targeting enforcement actions to the most dangerous and most recalcitrant employers.

First and foremost, CalOSHA can use these detailed site-specific data to much more clearly focus its targeting of establishments for programmed inspections on higher risk establishments within an industry.

For instance, Universal Health Services of Delaware is the nation's largest operator of mental hospitals – with about 40% of the market.

It has a notorious track record of violating OSHA standards, and has been cited repeatedly by Federal and state OSHA programs in states around the country. Among the most serious of those violations were the company's failing to prevent violence against its staff – most recently near Denver, CO.

But sadly, only two of those were in CA, including their facilities in Fremont and Torrance. And both of those inspections arose from worker complaints. Both of those violations were sustained on appeals to the Appeals Board and/or the courts.

If CalOSHA had easy access to the company's Logs, the workers at this company would not have to wait for the recalcitrant management to finally see the light, or to call CalOSHA inspectors themselves. That is an untenable position for these workers at such a large employer, and CalOSHA has every reason to focus on UHS facilities in its inspection targeting.

Cal OSHA is currently conducting many programmed inspections by simply randomly picking employers in high-risk industries without choosing those with the highest known injury rates. These data will allow CalOSHA to not only prioritize these "bad actors" for the primary inspections (as Federal OSHA has long done), but also to determine in advance which of these employers have patterns of injuries more likely to result from violations of CalOSHA standards.

Given that CalOSHA persists in finding a much smaller proportion of Serious violations in the same industries as its counterparts in other state plans or Federal OSHA, an improved targeting program is long overdue.

In addition, CalOSHA should recognize the very small number of employers to whom the detailed reporting requirement would even apply. According to EDD labor market data for 2018, the 250-employee size cut-off would apply to less than 1% of all worksites in California – and yet still cover industries with about 5 million workers.¹

If Cal/OSHA were to expand the requirement to worksites with 100 or more employees per worksite, it would apply to at most 1.6% of worksites. It would only add fewer than 18,000 worksites, yet cover another 2.7 million workers, bring the total potential number of workers covered to nearly 7.7 million workers – 45% of the state's total workforce.²

In addition, CalOSHA should consider covering employers in the applicable industries whose worksites are smaller but which collectively employ a larger number of workers. For instance, the rule could establish a minimum thresholds of 500 employees companywide in industry sectors for companies required to not only keep and then also report these records electronically for each of their worksites.

Respectfully submitted,

Eric Frumin

Change to Win

¹ California Employment Development Department (CA EDD) "LaborMarketInfo", 1st Q, 2018

² CA EDD, 1st Q, 2018

Change to Win Comments in Support of Cal/OSHA Rule on Employer Reporting of Detailed Data on Workplace Injuries and Illnesses

May 31, 2019

OSHA's recent repeal of key portions of the 2016 Injury Tracking Rule of Workplace Injuries and Illnesses is a major step backward in our nation's urgent efforts to find the most common and serious safety and health threats to workers, and to get employers to fix them.

When Federal OSHA issued this rule, Change to Win and its affiliates SEIU and the Teamsters strongly supported it. We still strongly support this rule, and urge CalOSHA to move ahead deliberately to fulfill the Legislature's intent and adopt the a rule in California which meets and exceeds the goals and methods of the Federal regulation.

Legislative intent

Last year, the California legislature spoke loudly and clearly about the need to do just that. As described in the final version of AB2334:

"The Legislature finds and declares ...

b) [that the OSHA] rule is an important step to improve workplace safety through expanded access to timely, establishment-specific injury and illness information for employers, employees, employee representatives, potential employees, customers, and public health researchers.

e) While posting of injury information at each worksite is important, specific workplace injury and illness information is not accessible to the public and prospective employees in an easily accessible database on the Internet.

(f) ... there is no requirement that such records or their related annual summaries be separately provided by [reporting employers] to or maintained by a central clearinghouse, where the public may view, sort, and track the information in an easily accessible format online.

(g) Workplace illness and injury reporting should be robust and easily accessible [with] Public access"

Most employers have kept these records on-site for decades. But unless a CalOSHA inspector requested them during an inspection, CalOSHA never saw them.

Otherwise, during this time, only individual workers – or their unions if they had one – could even request copies of these records at the workplace. And as the Teamster and SEIU representatives have described, even such legally-supported requests have been met with hostility by some employers – employers who should certainly know better.

Cal/OSHA can now collect these same data electronically from these same large employers, and it is high time that CalOSHA do so.

Employer failure to comply with OSHA requirements regarding employee access to the Logs

But some employers are not content to merely ignore their legal obligation to provide these records to their own employees. They have gone further and retaliated against workers who have made such requests.

For instance, The Eulen Group is a large, multi-national supplier of support services to airlines at many of the biggest airports in the nation, including LAX and Long Beach. Headquartered in

Spain, it says it has more than 7,000 clients in 14 countries, more than 90,000 employees – including 3000 in the US, and reports 2017 sales of over 1.5 billion euros.

Recently, Eulen workers at three different US airports requested the OSHA 300 logs, and the company has failed to provide the logs to any of these workers. However, in Miami, after a ramp agent named Estaban Barrios requested the Logs and the company promised to mail the logs to him, he discovered that he had suffered a pay cut and the company had imposed an undesirable schedule change. To date, Mr. Barrios still has not received the copies of the logs to which he is entitled.

Such interference in workers' rights -- especially by large employers in highly regulated, safety-sensitive industries like air transport -- is inexcusable. But it is also a good indicator of the urgency of CalOSHA's efforts to deter such law-breaking by other less visible employers in dangerous industries.

Employee privacy is not a legitimate reason for failing to require the reporting of the Logs and 301's

Federal OSHA claims it repealed the collection of detailed injury data to protect workers' privacy, and because the data is not useful to OSHA. We strongly disagree.

When issuing the rule in 2016, OSHA first directed employers **not to even report** workers names or other details that could identify individual workers.

I can also personally assure CalOSHA that in my over 40 years of assisting both unionized and non-union workers requesting and using these Logs, there have been no problems with worker complaints about privacy violations.

Indeed, during the federal OSHA rulemaking, I challenged the Chamber of Commerce and other opponents of this rule to name a single incident in all the years that unions and workers have been receiving copies of the Logs, and they failed to do so.

Employer failures to make appropriate use of their own logs themselves

For many years, we have seen major employers simply ignore the important value of these data for prevention purposes, even when we have analyzed their own data for them. In 2010, I and others performed a detailed study in the hotel industry. This study relied largely on the Form 300 logs of the five largest hotel companies in the nation, whose properties accounted for over 70% of the "full-service" hotel rooms in the nation. It involved nearly 3,000 injuries over a 3-year period. In its proposed and final versions of the Injury Tracking rule, OSHA explicitly acknowledged this study as an example of the "research on workplace safety and health in the US," using the data in the OSHA/BLS data system (78 FR 67276 and 81 FR 29685)

This landmark study – the first of its kind – examined the issue of race or gender discrimination in the creation of workplace hazards, and produced some remarkable findings, such as:

- Women workers overall and Asian and Hispanic men were about 1.5 times more likely to have been injured
- Female housekeepers had about three times the risk of injury than male housekeepers, and Hispanic housekeepers were 70% more likely to be injured than white female housekeepers.
- The study found injury rates in some companies double or more than at comparable employers in the same industry.

To the best of our knowledge, none of the companies involved have since provided publicly any further analysis of the underlying data which would change these results or conclusions – even for their own companies.

Use of site-specific injury/illness data for targeting enforcement and other DOSH functions.

These data are especially important for OSHA and CalOSHA to use in targeting enforcement actions to the most dangerous and most recalcitrant employers.

First and foremost, CalOSHA can use these detailed site-specific data to much more clearly focus its targeting of establishments for programmed inspections on the highest risk establishments within an industry.

For instance, Universal Health Services of Delaware is the nation's largest operator of mental hospitals – with about 40% of the market.

It has a notorious track record of violating OSHA standards, and has been cited repeatedly by Federal and state OSHA programs in states around the country. Among the most serious of those violations were the company's failing to prevent violence against its staff – most recently near Denver, CO.

But sadly, only two of those were in CA, including their facilities in Fremont and Torrance. And both of those inspections arose from worker complaints. Both of those violations were sustained on appeals to the Appeals Board and/or the courts.

If CalOSHA had easy access to the company's Logs, the workers at this company would not have to wait for the recalcitrant management to finally see the light, or to call CalOSHA inspectors themselves. That is an untenable position for these workers at such a large employer, and CalOSHA has every reason to focus on UHS facilities in its inspection targeting.

Instead, DOSH inspectors and supervisors could examine the logs at the affiliated facilities, and identify those which display the most frequent cases of severe workplace violence. As Fed OSHA and multiple other state plans already do, DOSH staff could use site-specific data, within months of receiving such reports, to select identify those most in need of interventions including targeted enforcement actions.

Cal OSHA is currently conducting many programmed inspections by merely randomly picking employers in high-risk industries without choosing those with the highest known injury rates. These data will allow CalOSHA to prioritize these "bad actors" for the primary inspections (as Federal OSHA has long done).

In addition, employer reporting of these data will also allow DOSH staff to determine in advance which of these employers have repeated patterns of injuries more likely to result from violations of CalOSHA standards. For instance, DOSH inspectors could identify much more easily severe injuries from unguarded machinery in industries already shown in industrywide surveys by BLS to exhibit such problems.

CalOSHA failure to adequately identify Serious violations

For many years, CalOSHA inspections have resulted in Serious violations at rates far lower than those routinely found by either Federal OSHA or comparable state OSHA programs. For instance, in the latest available Federal Annual Monitoring and Evaluation (FAME) Report, for FY 2-17, Federal OSHA monitors found yet again that DOSH staff issued Serious/Willful/Repeat violations in fewer than 1% of all inspections.¹

This deficiency was deemed sufficiently serious by Federal OSHA that has required remedial action by DOSH, a repetition of the requirement from previous FAME findings as well.

DOSH clearly knows how to do inspections that identify Serious violations. In its High Hazard inspections, DOSH finds Serious violations in virtually every inspection. But unfortunately, the High Hazard program only accounts for about 5% of all inspections.

Given that DOSH persists in finding a much smaller proportion of Serious violations in the same industries as its counterparts in other state plans or Federal OSHA, an improved targeting program is long overdue for DOSH enforcement in general. These data will provide critically-important assistance to DOSH staff in identifying the sites with the worst problems.

Expansion of the scope of any proposed reporting rule to employers with at least 100 employees.

CalOSHA should recognize the very small number of employers to whom the detailed reporting requirement would even apply. According to EDD labor market data for 2018, the 250-employee size cut-off would apply to 3,930 worksites, or only 0.3% of all worksites in California – and cover industries with about 2.3 million workers.² (see attached summary).

If Cal/OSHA were to expand the requirement to worksites with 100 or more employees per worksite, it would apply to at most 1.0% of worksites. It would only add an additional 12,000 worksites, yet cover another 1.8 million workers, bringing the total potential number of workers covered to nearly 4.1 million workers – still only 23.9% of the state’s total workforce.³

In addition, CalOSHA should consider covering employers in the applicable industries whose worksites are smaller but which collectively employ a larger number of workers. For instance, the rule could establish a minimum thresholds of 500 employees companywide in industry sectors for companies required to not only keep and then also report these records electronically for each of their worksites.

Respectfully submitted,

Eric Frumin

Change to Win

New York, NY

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¹ https://www.osha.gov/dcsp/osp/efame/2017/california_fy_2017_comprehensive_fame_report.pdf

² California Employment Development Department (CA EDD) “LaborMarketInfo”, 2nd Q, 2018

³ CA EDD, 2nd Q, 2018

Private sector establishments

Establishments by employee size	All estabs	<u>Total # Estabs</u>		<u>% of Total # Estabs</u>		<u>% of Total # Estabs w</u>	
		100+ Ees	250+ Ees	100+ Ees	250+ Ees	100+ Ees	250+ Ees
Total estabs	1,551,834						
Total estabs w OSHA records	630,324	15,890	3,931	1.0	0.3	2.5	0.6

Number employees by establishment employee size	All estabs	<u>Total # employees</u>		<u>% of Total # Employees</u>		<u>% of Total # Employees in</u>	
		100+ Ees	250+ Ees	100+ Ees	250+ Ees	100+ Ees	250+ Ees
All establishments	17,395,875						
All establishments w OSHA records	9,867,177	4,163,019	2,363,254	23.9	13.6	42.2	24.0

Source: Employment Development Department, Labor Market data, 2Q, 2018.
Employer industries selected per revised Appendix A, Subpart E, 1904.41, May 12, 2016.

Occupational Injury Disparities in the US Hotel Industry

Susan Buchanan, MD, MPH,^{1*} Pamela Vossen, MPH,² Niklas Krause, MD, PhD,³
Joan Moriarty, MS,⁴ Eric Frumin, MA,⁴ Jo Anna M. Shimek, MS,⁵
Franklin Mirer, PhD, CIH,⁶ Peter Orris, MD, MPH,⁷ and Laura Punnett, ScD⁸

Background *Hotel employees have higher rates of occupational injury and sustain more severe injuries than most other service workers.*

Method *OSHA log incidents from five unionized hotel companies for a three-year period were analyzed to estimate injury rates by job, company, and demographic characteristics. Room cleaning work, known to be physically hazardous, was of particular concern.*

Results *A total of 2,865 injuries were reported during 55,327 worker-years of observation. The overall injury rate was 5.2 injuries per 100 worker-years. The rate was highest for housekeepers (7.9), Hispanic housekeepers (10.6), and about double in three companies versus two others. Acute trauma rates were highest in kitchen workers (4.0/100) and housekeepers (3.9/100); housekeepers also had the highest rate of musculoskeletal disorders (3.2/100). Age, being female or Hispanic, job title, and company were all independently associated with injury risk.*

Conclusion *Sex- and ethnicity-based disparities in injury rates were only partially due to the type of job held and the company in which the work was performed. Am. J. Ind. Med. 53:116–125, 2010. © 2009 Wiley-Liss, Inc.*

KEY WORDS: *occupational injury; hotel workers; housekeepers; musculoskeletal disorders; health disparities*

BACKGROUND

Health disparities between the sexes and between racial/ethnic groups have been documented for a wide spectrum of diseases [Satcher and Higginbotham, 2008] but research on disparities in the rates of injuries and diseases occurring in the workplace is still emerging. Recent studies have shown that Hispanic workers have the highest rate of fatal and non-fatal OSHA-reported injuries in the US, followed by black non-Hispanic workers [Richardson et al., 2003; USBLS, 2007a]. Among agricultural and hospital workers, a disproportionate burden of occupational injury is carried by women, African Americans, and Latinos [McGwin et al., 2000; Simpson and Severson, 2000; McCurdy et al., 2003]. Elevated risks among these groups are partially explained by disproportionate employment in high-risk industries and occupations, but there may also be disparities within the same industry or job classification, perhaps resulting from sex, racial, or ethnic discrimination and other factors.

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⁶Environmental and Occupational Health Sciences, Urban Public Health Program, Hunter College School of Health Sciences, New York, New York

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Work conducted while Joan Moriarty and Eric Frumin were at UNITE HERE.

Contract grant sponsor: UNITE HERE.

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Within the US hospitality industry, hotels, and motels employ 1.8 million workers [USBLS, 2007b]. In the United States, hotel workers are nearly 40% more likely to be injured on the job than all other service sector workers. Hotel workers also sustain more severe injuries resulting in more days off work, more job transfers, and more medically restricted work compared to other employees in the hospitality industry [USBLS, 2005].

Approximately 25% of hotel workers are employed in housekeeping departments [USBLS, 2007b]. Housekeepers constitute the single largest occupational group in the hotel industry and include room cleaners (maids or room attendants) and housemen. Many room attendants are immigrant or minority women, with a majority being either Asian, Latin American, or African American [Wial and Rickert, 2002]. Thus, they belong to several groups that have been repeatedly identified as having excessive occupational risks: women [Stellman, 1999; NIOSH, 2002; Kauppinen et al., 2003; Messing, 2004; Treaster and Burr, 2004], immigrants [Improving Health and Safety Conditions for California's Immigrant Workers, 2002], ethnic/racial minorities [Frumkin et al., 1999], and low-wage workers [Frumkin and Pransky, 1999]. However, very little is known about occupational injuries among hotel housekeepers; the US Bureau of Labor Statistics (BLS) does not provide rates of occupational injury and illness for single occupations. Among Las Vegas hotel room cleaners, the prevalence of self-reported pain associated with work was 75% during the previous year [Scherzer et al., 2005]; 63% had had severe or very severe low back pain just in the prior month [Krause et al., 2005].

In 1996, the first National Institute for Occupational Safety and Health (NIOSH) research agenda ("NORA") called for innovative occupational health research to determine the extent and severity of disease and injury among special worker populations [NIOSH, 1996]. Ten years later, the revised NORA research agenda targeted the service sector, which accounts for 80% of the US workforce. Hotel workers have been repeatedly identified as an under-researched population with significant problems such as musculoskeletal injuries; even less is known about dishwashers, cooks, and other food service workers.

This study analyzes the rates of OSHA-reported injury within the hotel industry for four leading hotel job categories (hotel housekeepers, cooks/kitchen workers, stewards/dishwashers, and banquet servers), and examines disparities in injury risk by race/ethnicity and sex.

METHODS

Study Population

Institutional Review Board approval was obtained from the University of Illinois at Chicago under the "exempt" classification. The study population consisted of non-

supervisory hotel workers employed for a minimum of 2 weeks in at least 1 year during the study period of 2003–2005, at full-service hotels operated by the five largest hotel companies in the United States. For this study, full-service hotels are defined as properties with at least 100 guest rooms and with a minimum of 10,000 square feet of conference space. These criteria were intended to increase the likelihood that job classifications and workplace exposures to ergonomic and safety hazards would be similar. Luxury chains were excluded because the design and pace of work varies significantly at these properties.

The five companies operate several hotel chains that together make up over 70% of the full-service hotel rooms nationwide, with each company establishing its own standards of service. According to information found on the companies' public websites in February 2007, these companies operate 964 hotel properties in the US that meet the study's definition of full-service hotels. UNITE HERE, the largest hospitality workers union in North America, represents workers at many of these hotels.

Hotel Sampling

Upon request from the union, 71 of the hotels with collectively bargained contracts provided data, which could be utilized for this study. The two largest companies represented an unbalanced proportion of the sample, so a random number generator [Research Randomizer, 1997–2008] was used to select 12 hotels from each of these two. All hotels from the three other companies were included in the data analysis. This produced a sample of 50 hotels with sufficient data from 2003 to 2004 and 45 from 2005 (Table I). Study hotels were dispersed across the country with concentrations in large urban areas including New York City, Chicago, San Francisco, Los Angeles, and Honolulu.

Job Classifications

Job titles are numerous within hotel departments and vary from employer to employer. The authors in collaboration with

TABLE I. Hotel Company Distributions of US Full-Service Hotels and Hotels in the Study Sample

Company	Full-service hotels		Study sample	
	No.	%	No.	%
Company 1	334	35	12	24
Company 2	95	10	12	24
Company 3	10	1	5	10
Company 4	319	33	9	18
Company 5	206	21	12	24
Totals	964	100	50	100

experienced union field staff familiar with the specific job titles, grouped the jobs that share similar tasks and exposures to workplace hazards (e.g., “dishwasher” and “pot washer,” “housekeeping attendant” and “room attendant”). Five key job categories were created—housekeepers, banquet servers, stewards/dishwashers, cooks/kitchen workers, and “other.” Housekeepers perform guest room cleaning including making beds, vacuuming floors, cleaning shower walls and bathroom fixtures, dusting furniture, and pushing carts. Banquet servers provide food service such as carrying plated food from the kitchens to the customers, dispensing drinks, and supplying food to cafeteria and buffet services. Stewards retrieve, sort, load/lift, unload, and return dishes, glasses, pots, utensils and silverware, and provide these items by pushing carts to cafeteria and buffet lines. In addition, stewards maintain cleanliness in food preparation areas. Cooks lift, weigh, measure, mix, cut and grind food ingredients; they cook these ingredients and compose salads and other food for serving [USBLS Occupational Outlook Handbook, 2008–2009]. All remaining jobs were categorized as “other.” Jobs classified as “other” were those that did not share similar job tasks or exposures with the other four key job categories. These included lobby attendant, cashier, door person, host/hostess, among others.

Database Creation

Employee rosters and OSHA 300 log data were provided to the union by the five hotel companies for the period 2003–2005. The employee rosters provided employee name, department, job title, date of birth, date of hire, termination date, sex, and race/ethnicity. Race/ethnicity was defined by the employer based on employee self-report as one of the following five mutually exclusive categories: American Indian, Asian, Black, Hispanic, and White.

The OSHA 300 logs included employee name, department name or location where injury event occurred, job title, date of injury, injury description, days away from work, and days on restricted duty. These data were matched to the employee rosters using employee name and date of birth. The final dataset included a single record for each employee. Up to three injury or illness incidents during the 3-year study period were abstracted for each individual. Employee names were removed from all datasets before data analysis began. A record number was assigned to each injury incident and was subsequently used in all data analyses.

Injury Coding

Nature of injury data was constructed from the injury description section of OSHA log entries and were grouped by the authors into four categories: musculoskeletal disorders (MSDs), acute trauma injuries, other, and not classifiable. MSDs were coded according to the US BLS definition: “an

injury or disorder of the muscles, nerves, tendons, joints, cartilage, or spinal discs. MSDs do not include disorders caused by slips, trips, falls, motor vehicle accidents, or similar accidents” [USBLS, 2007c]. Back pain or pain at other body locations and strain or sprain injuries were coded as MSDs unless the entry referenced stairs or ladders, or the employer-reported description of the injury referenced a slip or fall. “Acute trauma” cases included contusions, fractures, lacerations, heat burns, and sprain or strain injuries with evidence of an injury mechanism that involves acute contact with outside objects (e.g., hit by, struck against) that were not otherwise categorized as an MSD. “Other” incidents included chemical exposures, foreign bodies in the eye, and all other cases. “Not classifiable” injuries had insufficient information to determine the nature of injury.

Statistical Analysis

All data were analyzed using SAS (SAS v. 9.1, 2007. SAS Institute, Cary, NC) and Excel (Microsoft Office 2003, Seattle, Washington). Injury rates and risk ratios were calculated to compare the injury experience of hotel workers by sex, race/ethnicity, and job title for the entire study population and by company. The denominator for all calculations was calculated from the number of workers who met the inclusion criterion of employment for a minimum of 2 weeks during each year of study. As individual employees may be counted in more than one study year, the denominators represent total worker-years of observation. The available data did not provide information on part-time/full-time status. The race and ethnicity characterization was left blank on the employee rosters for <1% of the sample. Therefore, this race/ethnicity “not classified” group was excluded from all data analyses.

Age was computed by subtracting birth date from the last day of the year being analyzed (e.g., in 2003, Age = 12/31/2003 – birth date) divided by 365.25. Only employees aged 18–70 years were included in the analysis. A job tenure variable was similarly created by subtracting termination date from hiring date.

Risk ratios were calculated using the following referent groups: males, whites, and “other” job title. For analyses by hotel company, Company 1 was chosen as the referent group on the basis of the level of union presence at its hotels, thereby a measure of labor and management’s negotiation of working conditions.

Because we had injury count data and repeated measures (multiple years per subject), we performed multivariable Poisson regression modeling (Loomis et al. 2005) with generalized estimating equations (GEE) using SAS Proc Genmod with a Poisson distribution, unstructured correlations and log link to estimate relative risk. Regression models included age (18–27 years, 28–37 years, 48–57 years, 58–70 years), sex, race/ethnicity, job title, job tenure (0–10

TABLE II. Demographic Breakdown of Hotel Workers* Employed 2003–2005 in 50 Unionized Full-Service Hotels (n = 55,327)

	Total		Housekeeper		Banquet server		Steward/dishwasher		Cook/kitchen worker		Other jobs	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	31,135	56.4	269	2.3	3,406	66.8	2,948	85.1	3,269	72.0	20,280	69.2
Female	24,048	43.6	11,320	97.7	1,693	33.2	518	14.9	1,271	28.0	9,008	30.8
White	11,187	20.3	982	8.4	2,137	36.8	286	8.1	882	19.3	6,898	23.3
Asian	13,352	24.2	3,109	26.7	909	15.6	594	16.9	1,202	26.3	7,538	25.4
Black	12,252	22.2	3,439	29.5	712	12.3	962	27.3	872	19.0	6,267	21.1
Hispanic	18,392	33.3	4,118	35.3	2,047	35.3	1,678	47.7	1,622	35.4	8,927	30.1
American Indian	144	<1	12	<1	32	<1	7	<1	10	<1	83	<1
Total (%) ^a	55,327	100.0	11,660	21.1	5,837	10.5	3,527	6.4	4,588	8.3	29,713	53.7

*Total person-years observed, not total employees.

^aTotal excludes race “not specified” (<1% of total).

years, 11–20 years, 21–30 years, 31–40 years, 41–52 years), and hotel company as independent variables. In addition, cross tabulation and regression modeling were performed within the subset of female housekeepers. Similar analyses were not conducted within other subsets of other job classifications; female housekeepers were a particularly large subset.

RESULTS

There were a total of 55,327 worker-years of observation in the sample. Fifty-six percent of the sample was male and 44% female (Table II). By job title, 21% of the employees were housekeepers, 11% were banquet servers, 6% were stewards/dishwashers, 8% were cooks/kitchen workers, and 54% had other jobs. Most of the workers were non-white (Black, Asian, Hispanic), comprising 80% of the sample. American Indians and male housekeepers were very few in number. Hispanics comprised the largest proportion of three job titles: housekeepers, stewards, and cooks. The mean age of the study population was 44.5 years (SD 13.5). The mean job tenure was 9.61 years (SD 8.8).

There were 2,865 injuries recorded on the OSHA 300 logs in 2003–2005 (Table III), for an injury rate of 5.2 injuries per 100 worker-years. Acute trauma accounted for 52% of the injuries, 39% were musculoskeletal injuries, and 9% were “other” or “not classifiable.” Women workers had a higher overall injury rate (6.3) than men (4.3).

Housekeepers had the highest overall injury rate and the highest rate of MSDs, at 7.9 and 3.2 per 100 workers, respectively. Acute trauma rates were highest in cooks/kitchen workers and housekeepers. Banquet servers had the lowest injury rates. Excluding the six injuries among American Indians, among housekeepers (Table IV), Hispanic workers had the highest overall injury rate at 10.6, the highest rate of MSDs (4.4), and the highest rate of acute traumas

(4.9). Among cooks (not shown), Asians had the highest rate: 8.4% for all injuries, with 7.9% among males and 10.1% among females.

In each job title of interest (housekeepers, etc.), injuries of the upper extremity were the most common, followed by back injuries and lower extremity injuries. By nature of injury, over 40% of MSDs involved the back, 22% distal upper extremities, and 13% the shoulder. In contrast, 44% of acute traumatic incidents were to the upper extremity, especially the hand.

Women workers overall and Asian and Hispanic men were about 1.5 times more likely to have been injured than their referent groups (Table V). Female American Indians fared the worst, although the number of injuries were so few that the confidence intervals are relatively wide. Hispanic women had almost double the risk of injury than their white female counterparts. Within job categories, non-white female cooks/kitchen workers fared poorly compared to their white counterparts as did non-white male banquet servers. Female housekeepers had about three times the risk of injury than male housekeepers, and Hispanic housekeepers were 70% more likely to be injured than white female housekeepers.

When analyzed by hotel company, the overall injury rates differed markedly by company, with companies 2, 3, and 4 in particular having almost twice the rate of Company 1 (Table VI). Company 2 had the highest rate of injury for housekeepers (10.4). This overall effect was consistent in analysis by injury type, with the lowest rates for both MSDs and acute trauma injuries in Company 1. These same patterns by company were also evident for key demographic groups within the four key jobs. Of the 15 job/race/sex groups with sufficient cases for comparison, Companies 2 and 3 had the highest injury rates for five of them and Company 4 had almost as many. Company 1 had only one such group, and Company 5 had none.

TABLE III. Injury Incidence and Rates* for the Hotel Worker Study Population, by Sex and Job Title, 2003–2005

	Total		Male		Female		Housekeeper		Banquet server		Steward/dishwasher		Cook/kitchen worker		Other jobs ^a	
	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate
MSDs	1,117	2.02	525	1.68	592	2.46	368	3.16	63	1.08	70	1.99	80	1.74	536	1.82
Acute trauma	1,497	2.71	709	2.28	788	3.28	456	3.91	94	1.62	116	3.30	182	3.98	649	2.19
Other injuries	251	0.45	110	0.35	141	0.59	93	0.80	7	0.12	24	0.68	12	0.26	115	3.88
Total injuries	2,865	5.19	1,344	4.32	1,521	6.32	917	7.87	164	2.82	210	5.97	274	5.99	1,300	4.92

*Injury rate is number of cases per 100 person-years.

^aInjuries that were “not classifiable” were collapsed into “other” jobs.

The regression analyses of all hotel workers (Table VII) confirmed the higher injury risk for housekeepers and Hispanic workers, and the lower risk in Company 1, after adjusting for demographic characteristics. Comparison of univariable and multivariable models showed that some of the apparent excess risk in Black, Hispanic, and Asian workers was reduced after adjustment for job title and hotel company. This was consistent with the fact that Blacks were most likely (30%), and Whites least likely (8%), to be employed as housekeepers rather than in other jobs, and that Company 1 had fewer Black and Asian employees. Job tenure had a slight inverted-U effect (risk was highest for 21–30 years of seniority and then decreased) but it was dropped from the multivariable models because the coefficient was very small, the confidence intervals wide, and the type 3 (GEE) score statistics indicated that the variable did not contribute any explanatory power. Among female housekeepers, the predictors of injury were quite similar to those for all hotel workers, with increased risk for being Hispanic or employment at Companies 2, 3, and 4.

DISCUSSION

Several studies have shown that cleaning tasks in various industries demand a high level of physical effort, including high aerobic strain and repetitive movements [Hagner and Hagberg, 1989]; high static muscular loads [Milburn and Barrett, 1999]; high frequency of unsatisfactory postures such as stooping and crouching [Woods et al., 1999]; and subjective experience of strenuous work [Sogaard et al., 1996; Seifert and Messing, 2006]. In hotel workers specifically, guest room cleaning work is marked by time pressure, low job control, low wages, increasing use of contingent employees without job security, and few opportunities for career advancement [Parker, 1999; Lee and Krause, 2002; Wial and Rickert, 2002; Bernhardt et al., 2003; Krause et al., 2005]. The present study is one of the first to quantify the incidence, rates, and risk of injury among hotel workers.

We found that women were more often injured than men and that housekeepers in general suffered the highest injury rate among the four job titles of interest. Moreover, our results show an alarming injury rate among housekeepers in general and Hispanic housekeepers in particular. While close to half of the total workers here are women, they were heavily grouped in the housekeeping category, a set of jobs with very high physical demands. This study strengthens the evidence that job gender stereotyping within the American economy remains a potent defining factor for the workforce and potentially a substantial risk factor for injury [Mergler, 1995; Messing et al., 1998, 2003; Punnett and Herbert, 2000].

Socioeconomic status (SES) in general, and income inequality, education, and job-specific occupational hazards in particular, have all been proposed as possible explanations for racial/ethnic as well as gender health disparities. There is

TABLE IV. Injury Incidence and Rates* for Housekeepers by Race/Ethnicity, 2003–2005

	All injuries		MSDs		Acute trauma		Other/not classifiable	
	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate	Inj no.	Rate
Asian	228	7.33	102	3.28	106	3.41	20	0.64
Black	189	5.50	58	1.69	113	3.29	18	0.52
Hispanic	435	10.56	183	4.44	203	4.93	49	1.19
White	62	6.31	24	2.44	32	3.26	6	0.61
American Indian	6	50.00	1	8.33	5	41.67	None	
Total ^a	920	7.89	368	3.16	459	3.94	93	0.80

*Injury rate is number of cases per 100 person-years.

^aTotal excludes race "not specified" (<1% of total).

consistent epidemiologic evidence that low status jobs are associated with a high burden of disease, injury, and disability [Robinson, 1989; Krause et al., 1997, 2001; Amick et al., 1998; Borg and Kristensen, 2000; Pransky et al., 2000; Berkman and Kawachi, 2002; d'Errico et al., 2007]. This burden falls disproportionately on workers who are multiply disadvantaged in society and who have been under-represented and under-served in occupational health research. Female immigrant cleaners are a typical example of a minority population at the low end of the well-established SES gradient.

As yet, there has been no evaluation of the causes of differential injury rates by race/ethnicity within job title in this industry. One must question whether discrimination in the treatment of such workers—in the form of disproportionate assignment to high-risk jobs, refusal to fix unsafe conditions, or workers' disempowerment—resulting in unwillingness to speak up about such conditions, is at fault. As Murray [2003] noted, previous studies have observed informal systems of work assignments to non-white workers resulting in greater exposures to the hazards therein. Moreover, US BLS has already found that disproportionate employment of Hispanics in specific jobs is not associated with increased risk of injury after controlling for such employment patterns [Richardson et al., 2003]. In essence, race/ethnicity itself is not an indicator of increased risk.

The injury rate for the workers in this sample was 5.19 per 100 workers. For 2004, the US BLS reported a rate of 5.8 per 100 FTEs in hotel workers and 4.2 per 100 FTEs in the service sector overall. The lower overall injury rate reported in our sample may be due to the inability to identify the proportion of part time workers in this sample or that unionized employees work under conditions defined by collective bargaining agreements, which are intended to improve workplace safety. The study sample included only unionized workers, whereas the majority of US hotel employees do not belong to unions. Since unions function as the bargaining agent between the employer and the employee, it is likely that non-unionized hotels, in which

workers do not have a formal means to gain better working conditions, would have even higher injury rates than those reported in this study. Further, it is possible that hotels not providing data were those at which workplace safety is less of a priority and which have higher injury rates than those reported here.

These results also need to be seen in the context of the tendency of many workers not to report their injuries, especially if they are non-unionized, immigrants, or otherwise politically vulnerable [Azaroff et al., 2002, 2004; Brown et al., 2002; Scherzer et al., 2005]. Non-reporting of injuries may be due to language barriers, fear of retaliation, or lack of understanding of legal rights under Workers Compensation laws and OSHA standards. Although our data represent unionized workers who reported their injuries, the results may still represent an under-estimation of the true injury risk.

Other possible limitations to this study include quality of the data, coding, and job grouping errors. Injury data obtained from OSHA 300 logs may have contained inaccuracies. The individual responsible for completing these logs varies by workplace and is not always well trained in correct recording procedures. There may well be systematic differential approaches to OSHA 300 log completion by different hotel companies. Nevertheless, we saw no evidence of frequent recording errors or systemic bias in recording through regular quality control checks as well as consultations with experts on the coding and grouping criteria. Although the high rate of acute injuries in housekeepers may suggest coding errors, the OSHA logs frequently included event/exposure data such as contact with furniture, tripping over sheets, slips in bathtubs, etc. Furthermore, coding error is possible since some acute injuries in housekeeping may have been MSDs. However, the patterns of injury we found are also seen in US BLS data.

The hotels in this study sample were included based on number of rooms and size of meeting space in order to ensure similarity in job task burden among workers in the sample. Working conditions in full-service hotels are determined and standardized in major part by corporate-level policies such as

TABLE V. Injury Rate Ratios* for the Hotel Worker Study Population by Job Title, Sex, and Race/Ethnicity, 2003–2005

Job title	Males					Females				
	All females RR (95% CI)	American Indian RR (95% CI)	Asian RR (95% CI)	Black RR (95% CI)	Hispanic RR (95% CI)	American Indian RR (95% CI)	Asian RR (95% CI)	Black RR (95% CI)	Hispanic RR (95% CI)	
All hotel workers	1.46 (1.35–1.57)	0.41 (0.06–2.87)	1.52 (1.28–1.82)	1.07 (0.87–1.32)	1.54 (1.30–1.82)	2.19 (1.08–4.46)	1.39 (1.15–1.67)	1.14 (0.94–1.38)	1.91 (1.6–2.27)	
Housekeepers	3.19 (1.53–6.64)	n.a.	n.a.	n.a.	n.a.	4.00 (1.65–9.67)	1.19 (0.87–1.62)	0.87 (0.63–1.20)	1.70 (1.26–2.29)	
Banquet servers	1.38 (1.00–1.89)	n.a.	1.65 (n.a.)	1.87 (n.a.)	2.02 (n.a.)	n.a.	0.66 (n.a.)	1.20 (n.a.)	1.14 (n.a.)	
Stewards/ dishwasher	1.42 (1.00–1.97)	n.a.	1.29 (n.a.)	1.46 (n.a.)	1.78 (n.a.)	n.a.	n.a.	0.42 (n.a.)	0.45 (n.a.)	
Cook/kitchen worker	1.34 (1.04–1.72)	n.a.	1.42 (n.a.)	0.51 (n.a.)	0.89 (n.a.)	n.a.	2.77 (n.a.)	2.20 (n.a.)	1.94 (n.a.)	
Other workers	1.05 (0.93–1.19)	0.75 (0.11–5.21)	1.39 (1.12–1.73)	0.95 (0.74–1.22)	1.48 (1.21–1.81)	1.88 (0.70–5.09)	1.11 (0.82–1.50)	1.00 (0.73–1.37)	1.44 (1.08–1.93)	

n.a., insufficient data.

*Referent groups: Males are referent group for females; white males are referent group for American Indian, Asian, Black, and Hispanic males; white females are the referent group for American Indian, Asian, Black, and Hispanic females. Statistically significant results are shown in bold.

TABLE VI. Injury Incidence Rate*, and Rate Ratio for the Hotel Worker Study Population, by Job Title and Hotel Company, 2003–2005

Job titles	Company 1 ^a			Company 2			Company 3			Company 4			Company 5		
	# Inj	Rate	RR (95% CI)	# Inj	Rate	RR (95% CI)	# Inj	Rate	RR (95% CI)	# Inj	Rate	RR (95% CI)	# Inj	Rate	RR (95% CI)
Housekeeper	211	5.47		276	10.36	1.93 (1.59–2.34)	86	9.67	1.78 (1.37–2.32)	211	9.44	1.74 (1.41–2.13)	135	6.18	1.13 (0.89–1.43)
Banquet Server	5	n.a.		56	3.69	n.a.	14	3.97	n.a.	69	4.33	n.a.	20	4.25	n.a.
Steward/ dishwasher	51	4.63		60	7.15	1.55 (1.04–2.31)	32	11.19	2.48 (1.48–4.14)	45	9.15	1.99 (1.29–3.08)	22	2.60	0.56 (0.34–.93)
Cook/kitchen worker	47	3.90		88	7.48	1.94 (1.35–2.79)	26	12.32	3.29 (2.01–5.40)	59	6.54	1.68 (1.15–2.46)	56	4.94	1.27 (0.86–1.89)
Other workers	258	2.72		317	5.72	2.10 (1.77–2.50)	140	6.23	2.31 (1.84–2.89)	354	5.54	2.04 (1.72–2.42)	232	3.72	1.37 (1.13–1.65)
All jobs	572	3.26		797	6.79	2.10 (1.87–2.36)	298	7.48	2.33 (1.99–2.72)	738	6.36	1.95 (1.74–2.20)	465	4.28	1.31 (1.15–1.49)

n.a., insufficient data.

*Injury rate is the number of injuries per 100 person-years.

^aCompany 1 is the referent group for all other companies.

Statistically significant results are shown in bold.

TABLE VII. Regression Models of Injuries Per Year* to US Unionized Hotel workers, 2003–2005: Risk Ratios and 95% Confidence Intervals

	Unadjusted models (all hotel workers)		Multivariable model (all hotel workers)		Multivariable model (all hotel workers)		Multivariable model (female housekeepers)	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Age	1.07	1.04–1.09	1.08	1.05–1.11	1.09	1.06–1.12	1.10	1.03–1.18
Job tenure	1.08	1.04–1.12						
Female	1.46	1.35–1.58	1.24	1.12–1.37	1.21	1.09–1.34		
American Indian	1.35	0.67–2.72	1.33	0.68–2.61	1.15	0.60–2.22	2.54	1.05–6.13
Asian	1.46	1.29–1.67	1.25	1.10–1.42	1.11	0.97–1.26	0.97	0.71–1.33
Black	1.15	1.00–1.32	0.97	0.84–1.11	0.85	0.74–0.98	0.75	0.54–1.03
Hispanic	1.70	1.50–1.92	1.50	1.33–1.70	1.42	1.26–1.61	1.50	1.11–2.02
Housekeeper	1.80	1.65–1.97	1.50	1.34–1.68	1.52	1.36–1.70		
Banquet server	0.64	0.54–0.77	0.60	0.50–0.72	0.56	0.47–0.67		
Steward/ dishwasher	1.37	1.17–1.61	1.30	1.11–1.53	1.31	1.12–1.54		
Cook/kitchen worker	1.38	1.20–1.58	1.34	1.17–1.54	1.31	1.15–1.51		
Company 2	2.10	1.87–2.36			2.17	1.94–2.44	1.94	1.59–2.35
Company 3	2.33	1.99–2.72			2.41	2.07–2.81	1.84	1.41–2.39
Company 4	1.95	1.74–2.20			2.06	1.83–2.32	1.74	1.41–2.14
Company 5	1.31	1.15–1.50			1.37	1.20–1.56	1.19	0.94–1.50

Male is the referent group for female; White is the referent group for Black, Hispanic, Asian, and American Indian; “Other jobs” is the referent group for housekeeper, banquet server, steward, and cook/kitchen worker; Company 1 is the referent group.

Up to three injuries per year per employee; denominators 55,311 person-years of observation for all hotel workers and 11,375 person-years for female housekeepers.

job task lists and the use of branded products such as luxury beds. Hotels with fewer than 100 rooms would be less likely to have standardized room quotas, which might affect workload pressure and therefore injury risk among housekeepers. Thus, we believe that the inter- and intra-hotel variations in work tasks among job title groups are likely to be minimal in our sample of properties.

There were substantial and consistent differences in injury rates among the five companies. These differences persisted for all injuries, for injuries by job title, and by demographic groups. As this study sought to standardize job tasks between companies, this differential suggests the influence of management policies and practices, meaning that workplace intervention has a significant ability to modify the risks identified in this study. These marked differences between companies demonstrate the potential for sharp improvement by individual companies in injury rates. They also underscore the need for companies with high rates to investigate whether discriminatory workplace practices contribute to these disparities—in order to remedy the discrimination and reduce the injury risk accordingly.

CONCLUSION

Injury rates for hotel workers are higher than those in the service sector as a whole. Characteristics that increased the

injury risk among the workers in our study included female sex, Hispanic ethnicity, housekeeper job title, and hotel company. Hispanic banquet servers had the highest risk amongst men, and American Indian housekeepers had the highest risk among women. Hispanic female housekeepers suffered more injuries than other female room cleaners. Immediate action is needed with respect to the control of hazards to housekeepers, especially those stressing the upper extremities, and to food service workers with respect to acute trauma. The ethnic, gender, and employer differentials deserve further exploration to adequately understand the interaction of social forces with ergonomic and safety hazards in the workplace. Large differences of injury rates between employers indicate a substantial potential for injury prevention in the hotel sector.

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Deputy Assistant Secretary Loren E. Sweatt
OSHA Docket Office
Room N-3653
U.S. Department of Labor
200 Constitution Avenue NW
Washington, DC 20210

Re: Docket No. OSHA-2013-0023, Tracking of Workplace Injuries and Illnesses

Dear Deputy Assistant Secretary Sweatt,

We are writing to oppose OSHA's proposed rule Tracking of Workplace Injuries and Illnesses (RIN 1218-AD17) to amend Section 1904.41(a)(1) "Annual Electronic Submission of Part 1904 Records by Establishments With 250 or More Employees" by eliminating the requirement that these employers electronically submit data from Forms 300 and 301.

The authors of this comment have significant expertise in the prevention of work-related injuries and illnesses, including the programs and policies of OSHA and MSHA, and in ways government agencies can improve the safety and health of workers. In addition, we have extensive first-hand knowledge of the regulation that the Department of Labor is proposing to withdraw, having been intimately involved through its entire regulatory history, from its conception through notice and comment rule-making, promulgation, and implementation.

The following are brief biosketches summarizing our expertise and knowledge of the issues under discussion herein.

- David Michaels, PhD, MPH is Professor of Environmental and Occupational Health at the Milken Institute School of Public Health of George Washington University. From 2009 until January 2017, he was United States Assistant Secretary of Labor for Occupational Safety and Health, the longest serving Assistant Secretary in the agency's history. In this role, he supervised and was closely involved in the conception, development and promulgation of the final rule "Improved Tracking of Workplace Injuries and Illnesses final rule." In addition, he has extensive knowledge of OSHA's activities in the areas of enforcement and compliance assistance, and in its injury recording and reporting requirements.
- Jordan Barab served as OSHA's Deputy Assistant Secretary of Labor for Occupational Safety and Health from April 2009 until January 2017. At OSHA he worked on OSHA's "Improved Tracking of Workplace Injuries and Illnesses" final rule, focusing on OSHA's efforts to protect the confidentiality of injured or ill workers. He also worked to strengthen the agency's enforcement in high hazard industries, particularly the health care and petrochemical industries, improve OSHA's whistleblower protection program, expand the agency's activities around workplace violence, and increase outreach to the vulnerable populations who are at greatest risk for work-related injury and illness. He currently consults and writes a newsletter on workplace safety and labor issues called Confined Space, at www.jordanbarab.com/confinedspace.

- Gregory R. Wagner, M.D., is Adjunct Professor of Environmental Health at the Harvard T.H. Chan School of Public Health. From 2009 to 2012 he served as Deputy Assistant Secretary of Labor for Mine Safety and Health. While at MSHA Dr. Wagner had substantial experience utilizing MSHA Part 50 data resulting from the mandatory reporting of mining injuries and diseases as the Agency worked to improve the quality of both routine and strategic inspections and enforcement, implement major components of the Mine Act (such as the Pattern of Violations provisions), and improve technical assistance to both mine operators and miners. Dr. Wagner previously directed the Division of Respiratory Disease Studies of the National Institute for Occupational Safety and Health [NIOSH] and served as the first NIOSH Associate Director of Mine Health and Safety where he and his staff utilized both MSHA part 50 data as well as OSHA exposure data as part of their ongoing research and disease and hazard surveillance programs.

We ask that OSHA withdraw the component of the proposed rule eliminating the requirement that large establishments electronically submit data from Forms 300 and 301 for the following reasons:

1. There is compelling evidence that collection and posting of these data will assist OSHA in its efforts improve safety and health protections for workers

- Strengthened Enforcement

Contrary to statements in the NPRM, there is compelling evidence that collection of these data will enhance the ability of OSHA to improve safety and health protections for workers. Currently, when OSHA is able to obtain these particular data, the agency utilizes them to improve safety and health protections for workers. However, OSHA is currently able to obtain these data for only a very small number of establishments. The purpose of the regulation OSHA is proposing to rescind is to collect these data in order to improve protections for more workers. When an OSHA Compliance Safety and Health Officer (CSHO) conducts an inspection, one of the first actions that CSHO takes is to examine and copy the Forms 300 and 301 that OSHA now asserts it no longer wants or needs to collect electronically. These data serve as the roadmap for the inspection, informing the CSHO of the number, type, severity and distribution of injuries across the establishment. The Form 300 also provides separately the location of the incident within the workplace, and whether the injury resulted in loss of work time or job transfer/restricted days from work. Form 301 gives information to the CSHO substantially more information about the nature of the injury/illness, the events involved in the incident, and the “cause” of the injury/illness (“what object or substance directly harmed the employee?”). It also indicates whether an injured worker was treated by a physician or other health care professional, and if the injury/illness was severe enough to require that the employee be sent to an emergency department or hospitalized as an inpatient.

During the period that OSHA collected the 300A’s, the inspectors had access only to the summary data from Form 300A, and knew only the establishment’s overall number and rates of injuries/illnesses. But they knew little about where and how they occurred, or the likelihood that the establishment violated OSHA regulations. OSHA was limited in its ability to determine the extent and nature of any possible OSHA violations, hindering the prioritization in inspections and resources to most effectively target high-risk industries. By asserting there is no need for the OSHA National Office to compile data from the Forms 300 and 301, OSHA is asserting that

summary data from Form 300A are adequate to understand the patterns of injury/illness causation at an establishment that has not been inspected. Needless to say, this statement is incorrect.

- Improved Enforcement and Compliance Assistance Targeting

The benefits to OSHA of having data from Forms 300 and 301 are significant and are by no means uncertain as claimed in the NPRM. The NPRM acknowledges that through the Severe Injury Reporting Program, some employers do provide directly to OSHA data currently on Forms 300 and 301 for a relatively small number of injuries. These data have been extremely important in improving OSHA inspection targeting and compliance assistance activities. When reports of hospitalizations or amputations are made, OSHA area offices analyze the information in the report to determine whether an inspection is warranted. While fewer than half the reports result in inspections, the inspections triggered by these reports are of great value, and result in elimination of hazards that could easily injure or kill other workers.¹

The re-evaluation OSHA claims to have conducted only focuses on the value to enforcement. Even if there was evidence demonstrating the data collection was not useful for enforcement (and there is no evidence these data exist), the agency has failed to re-evaluate the regulation's value to aspects of safety and health protection other than enforcement. OSHA has utilized data from these detailed severe injury reports (data comparable to those included in Forms 300 and 301) to better understand injury causation, and to develop and target compliance assistance materials based on this understanding. For example, after reports of amputations among workers operating food slicers in grocery stores, OSHA developed and disseminated a fact sheet containing information important to helping employers and workers prevent finger amputations.² Since OSHA inspectors rarely visit grocery stores or delicatessens, the agency only learned about the extent of the problem through severe injury reports.

However, the reports received through the Severe Injury Reporting Program are limited to amputations and hospitalizations. The single most frequent type of workplace injury – often involving long periods of disability—is musculoskeletal disorders (MSDs) such as back pain that rarely result in a hospitalization.³ In addition, as stated above Form 301 also provides information about emergency room visits, data available from no other source. Form 300a contains no information about MSDs, and employers currently report no data specific to these conditions to OSHA. The Form 300 and 301 data would help OSHA to identify some of the types of workplaces where workers are suffering MSDs, especially if these injuries are in establishments like hospitals which employ millions of workers in large workplaces but are not generally inspected by the agency.

By amending the electronic reporting submission requirement for large establishments, OSHA would ensure that it will continue to receive no data about MSDs – one of the most prevalent types in injuries in the workplace.

In addition, researchers, including those affiliated with OSHA, currently use the limited data collected through the Severe Injury Reporting (SIR) program to identify industries, establishments and employers where workers have the highest risk of amputation. Here is one example:

Nevin RL, Bernt J, Hodgson M. Association of Poultry Processing. Industry Exposures with Reports of Occupational Finger Amputations: Results of an Analysis of OSHA Severe Injury Report (SIR) Data. J. Occup Environ Med. 2017;59(10):e159.

We raise this example to show that data on MSDs and other conditions, including the many amputations and hospitalizations not submitted through (SIR),⁴ could be of great use in strengthening worker safety and health protections.

Finally, OSHA has shown in the past how Form 300 and 301 data from multiple establishments has enabled the agency to improve safety and health protections. Compliance Assistance staff in a Texas area office, for example, collected Forms 300 and 301 and analyzed three years of injury data from 22 firms in the manufactured housing (mobile home) industry. Through this analysis, OSHA staff was able to identify the five types injuries that accounted for 80 per cent of all injuries in these establishments.

The Compliance Assistance staff contacted the 22 firms and encouraged them to implement safety and health programs specifically addressing the five types of injuries. OSHA met quarterly with these employers to discuss progress and to provide an opportunity for the firms to share their experience and progress with each other. As a result, injury rates dropped in these establishments, and several establishments reported significant decreases in workers' compensation costs. The estimated savings in workers' compensation costs attributable to the program was \$2 million. This program could not have been launched without access to Form 300 and 301 data. However, while clearly very useful in developing injury prevention programs, aggregating Form 300 and 301 data by hand – as was done in this case -- is time- and resource consuming – especially on a national basis -- and requires far more resources than the system OSHA had committed to initiate in Section 1904.41(a)(1). This example illustrates how the planned analysis of electronically submitted data from Forms 300 and 301 is an efficient and effective use of tax-payer money.

The program described above and similar initiatives, could not have been accomplished if OSHA had access only to summary data from Form 300A. Simply knowing the overall injury rate tells the agency nothing about the types of injuries that are occurring, or ways to help employers prevent future injuries. The ability to obtain and analyze the granular establishment-specific data of the type contained in Forms 300 and 301 is vitally important for OSHA's efforts to improve workplace safety.

In summary, the current proposal does not “maintain safety and health protections” as the “preliminary analysis” states. OSHA's own experience has shown that the agency's enforcement and compliance assistance efforts would be enhanced and future work injuries and illnesses prevented if Form 300 and 301 data from large employers is collected and made available to OSHA staff as well as to public health researchers.

2. There is extensive evidence that collection and posting of these data will also assist stakeholders improve safety and health protections for workers

In proposing to rescind the requirement that large employers electronically submit Form 300 and 301 data to OSHA, for use and posting by the agency, OSHA's NPRM arbitrarily ignores the evidence considered by OSHA in issuing the Electronic Reporting Final Rule. In the preamble

to the Final Rule, OSHA listed and described many ways that access to these data could assist stakeholders in improving safety and health, without additional actions by OSHA. These include:

- Transparency Drives Positive Behavior

In issuing the rule, OSHA was taking advantage of the widely recognized finding that transparency can be a powerful driver of behavior.⁵ Making injury data available to the public would likely “nudge” more dangerous employers to better protect their workers.

Why? First, employers compete to attract the best possible workers at prevailing wage rates. Although workers can find out about wages and benefits at prospective employers, information on safety is harder to come by. That’s a problem because there is tremendous variation in injury rates among employers, even in the same industries in the same towns.

Hospitals and nursing homes are among the most dangerous places to work, with injury rates higher than construction or coal mining. The chances of being hurt in one nursing home can be five times that of another facility in the same town. Just as consumers benefit from information regarding which cars have the better safety records, workers would benefit from ready access to information on injury risks in making job choices. Nursing homes with low injury rates would become more attractive to workers while those with high rates would face pressures to improve.

Injury rate transparency can work through a second path. Evidence shows that firms that focus on quality production generally have low injury rates because work processes are tightly managed. High injury rates can indicate poor management and lax standards. If consumers care about product or service quality, injury rate disclosure can be a proxy of operational quality. It’s not surprising then that many responsible employers, proud of their low injury rates, support safety transparency.

Returning to the nursing home case, high worker injury rates may reflect inadequate staffing or lack of investment in safety equipment like lifts to help patients get out of bed without injuring the worker or dropping the patient. If their worker injury rates were public, more dangerous nursing homes would face pressure to improve safety performance not only to draw skilled job seekers, but to attract potential patients.

Research demonstrates that carefully crafted transparency policies can improve public safety. One compelling illustration of this is posting health inspection grades in restaurant windows. Consumers, eager to avoid food-borne illness, take these grades into account when deciding where to dine. After a grading program started in Los Angeles, revenues rose at establishments with high marks for food safety and fell at those with low ratings. More importantly, hospitalizations for food-borne illnesses decreased significantly.⁶

OSHA ignored all of this in its current NPRM, although these benefits to the agency and to worker safety and health were addressed in detail in the preamble of the Final Rule and are the subject of numerous comments that reside in the docket for that rule. Inexplicably, OSHA does not appear to have considered any of this material in issuing this NPRM. And inexplicably it does not explain why it is ignoring all this material.

By making assertions about the benefits (or lack of benefits) associated with the provisions of Section 1904.41(a)(1) without responding to or even referencing the material in the preamble on the final rule and the materials in the docket of that rule, subverts the policies embodied in the

Administrative Procedures Act. On this basis alone, OSHA should withdraw the NPRM and study the final rule and comments before proposing rescinding Section 1904.41(a)(1).

- Enabling Employer Benchmarking

OSHA has been told by many employers it would be useful for them to be able to benchmark their safety program with other employers in the same industry. The summary data, once OSHA releases it, would enable employers to do that only in the crudest way, and would provide little useful data. To do it well, however, means to construct injury rates by different job title or department, for which benchmarking employers would need data from Forms 300 and 301. For example, to successfully benchmark its experience preventing MSD among nurses, a large medical center would need to know the rate of MSDs among nurses at similar facilities. This can only be accomplished with data from Forms 300 and 301.

The preamble to the final rule referenced one such study based on the Form 300 data in the hotel sector. This study evaluated injury rates across the four leading job categories, based on 2,865 injuries recorded on OSHA Form 300s over 3 years in 50 hotels run by the "five largest hotel companies" in the US, whose hotel properties accounted for "over 70% of the full-service hotel rooms in the nation." Among other findings, it reported consistent and substantial differences between companies:

When analyzed by hotel company, the overall injury rates differed markedly by company, with companies 2, 3, and 4 in particular having almost twice the rate of Company 1... Company 2 had the highest rate of injury for housekeepers... This overall effect was consistent in analysis by injury type, with the lowest rates for both MSDs and acute trauma injuries in Company 1.⁷

- Research to improve worker safety and health

There is a paucity of empirical research on the causation and prevention of work-related injuries. Data from Forms 300 and 301 could serve as the basis for many studies that would help improve worker safety and health. Researchers could also use the data to evaluate the effectiveness of OSHA enforcement and compliance assistance programs aimed at specific types of injuries, something that cannot be done if the only data available are summary data from the Form 300A.

As discussed elsewhere in these comments, for many years MSHA has collected and posted data very similar to the data contained in Forms 300 and 301 that OSHA is currently committed to collecting and posting under Section 1904.41(a)(1). These data have been used by researchers to produce a series of papers that have been useful in understanding the causes of mine injuries and in preventing them from occurring. These studies include:

Biswas K, Zipf RK. Root Causes of Groundfall Related Incidents in U.S. Mining Industry in Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003;335-343.

Dindarloo SR, Pollard JP, Siami-Irdemoosa E. Off-Road Truck-Related Accidents in U.S. Mines. J Safety Res. 2016; 58:79-87.

Gernand J. Machine Learning Classification Models for More Effective Mine Safety Inspections. Proc. of IMECE2014. No. 38709. November 2014;:1-9.

Gowrisankaran G, He C, Lutz E, Burgess J. Productivity, Safety, and Regulation in Underground Coal Mining: Evidence from Disasters and Fatalities. NBER Working Paper No. 21129.2018;1-53.

Rost K, Waillmer DR, Haas E. An Operant Analysis of Leadership Practices in Mining. Journal of Safety, Health, & Environmental Research; 2015;11(2):234-273.

Kniesner TJ, Leeth JD. Data Mining Mining Data: MSHA Enforcement Efforts, Underground Coal Mine Safety, and New Health Policy Implications. Syracuse University SURFACE Center for Policy Research Working Paper No. 52. 2003.

Monforton C, Windsor R. An Impact Evaluation of federal Mine Safety Training Regulation on Injury Rates among U.S. Stone, Sand, and Gravel Mine Workers: An Interrupted Time-Series Analysis. American Journal of Public Health. 2010;100:1334-1340.

Morantz A. Coal Mine Safety: Do Unions Make a Difference? ILRReview. January 2013; 66(1);88-115.

These and other papers have already been submitted to the docket for this NPRM. We have therefore not attached them to this set of comments, but ask the papers be considered in connection with these comments.

3. Rescinding the Requirement that large employers electronically submit Form 300 and Form 301 data is contrary to recommendations the National Academy of Sciences, Engineering and Medicine recently made to OSHA

OSHA, along with NIOSH and the BLS recently commissioned the National Academies of Sciences, Engineering, and Medicine to examine our current systems for surveillance of occupational injury and illness and to make recommendations for improvement. The result is the report, *A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*.⁸ The NASEM selected a group of national experts (including Scott Mugno, President Donald J. Trump's nominee for the position of Assistant Secretary of Labor for OSHA) who unanimously signed-off on the report's conclusions and recommendations. This Report has already been submitted to the docket for this NPRM, so we are not attaching it to our comments.

While it appears that OSHA failed to conduct any analysis before proposing to rescind a component of the "Improve Tracking of Workplace Injuries and Illnesses" final rule, NASEM did look at these same issues in depth. Given that the NASEM report provides significant evidence that the collection of Form 300 and 301 data will be useful in improving workplace safety and health, it is surprising that OSHA failed to even reference the report and its applicable analyses in the NPRM. Given the panel's focus on OSHA's electronic recordkeeping rule and OSHA's apparent failure to consider it, we are quoting relevant sections in the comments.

This was the panel's charge, as stated in the preface:

To obtain forward-looking advice, NIOSH, BLS, and OSHA jointly asked the National Academies to conduct a study in response to the need for a more coordinated, cost-effective set of approaches for occupational safety and health surveillance in the United States. Our study committee has addressed this task, gathering information about the strengths and limitations of existing national and state approaches, reviewing a variety of methodologies and technologies that might be applied usefully and cost effectively. The resulting report is a product of more than a year of deliberations, offering the consensus advice of a diverse set of individuals who have studied the issues carefully and learned a great deal in the process. We have formulated a future vision that is intended to assist all stakeholders, including the agencies, as they seek to improve occupational safety and health in the coming years.

The experts convened by NASEM clearly recognized the value of the electronic injury reporting system, including the Form 300 and 301 data. In its praise for OSHA's Final Rule "Improve Tracking of Workplace Injuries and Illnesses," the report (on pages 176-178) emphasized the importance and value of Forms 300 and 301 data in improving safety and health protections:

The new rule provides a much-enhanced source of injury and illnesses data that can be used for effective targeting of interventions and prevention efforts as well as compliance activity focused on hazardous industries, workplaces, exposures, and high-risk groups. Furthermore, these data are not currently available to agencies or the public from other surveys. This employer-based system also provides new opportunities to conduct outreach and build tools and provide assistance to employers to identify and address hazards at individual worksites....

The new rule will provide an extensive new data source regarding injury and illness that can be used by OSHA, NIOSH, state agencies, employers, workers, and researchers for a range of surveillance and prevention purposes...

the information collected and available under the electronic reporting rule holds potential value for employers, workers, public health agencies, researchers, and others. Employers will be able to use the information to compare their experience with others in the industry. Workers will be able to have ready access to an employer's injury reports prior to seeking employment and while employed to assess the safety record of the employer. Public health agencies will be able to determine if there are types of injuries or illnesses occurring in the workplaces of particular industries. Public health departments will be able to initiate intervention efforts, including educational efforts and adjustments to public health standards in industries such as health care facilities, food establishments, or schools, which are regulated by the states. And researchers will have ready access to a large database of injury information to assist them with better characterizing high risks as well as assessing the effectiveness of interventions.

Many of the enhancements in safety discussed in the above excerpts, such as identifying individual hazards and specific types of injuries, and assessing the effectiveness of interventions, can only be accomplished with access to Form 300 and 301 data, underscoring the value of these data.

The report reached the following conclusion:

The OSHA electronic reporting rule will serve a key role by providing data essential for injury and illness surveillance not available from the SOII. These data are useful for targeting interventions and prevention efforts that focus on hazardous industries, workplaces, and exposures as well as high-risk groups. The rule also provides new opportunities to conduct outreach and to provide tools and assistance to employers who need to identify and address hazards at individual worksites. (emphasis in the original)

In addition, the Panel made the following recommendations to OSHA (on page 180), recommendations that OSHA would be rejecting if it eliminates the requirement that large establishments electronically submit data from Forms 300 and 301:

- **OSHA, in conjunction with BLS, NIOSH, state agencies, and other stakeholders, should develop plans to maximize the effectiveness and utility of OSHA's new electronic reporting initiative for surveillance.** These should include plans to provide ongoing analysis and dissemination of these data and to minimize duplication of reporting by employers. (emphasis in the original) ...
- OSHA should develop a publicly available and easily searchable injury and illness database based on the electronic reports...
- With experience from participants in this electronic reporting, OSHA should explore feasibility to expand electronic reporting to all employers required to maintain OSHA logs.

Furthermore, although it included an extensive examination of worker privacy issues as they relate to workplace injury and illness surveillance (including OSHA's electronic injury reporting requirements), the NASEM report does not raise privacy concerns about OSHA collecting and posting on the web the Form 300, 301 and 300A data.

Finally, as discussed below, in this same NPRM, OSHA has strongly embraced one of the NASEM report's recommendations in proposing requiring Employer Identification Number (EIN) reporting and included the report in the docket (as Ex. 2063). However, in the first component of this NPRM, OSHA is silent on the NASEM report's multiple recommendations that support collecting Forms 300 and 301 data from large establishments.

Since OSHA apparently disagreed with some recommendations of the NASEM report (which is already in the record) that go directly to the rescission of the data collection requirement, it was incumbent on the Agency to explain its disagreements in the NPRM.

Summarizing this section, the recent study by the National Academy of Sciences, Engineering and Medicine, commissioned by OSHA, concluded that the requirement that large establishments electronically submit Form 300 and 301 will enhance worker safety and health. Given all this, it would be arbitrary and capricious for OSHA to rescind a significant component of that requirement without consideration of NASEM's recommendations or without having conducted any meaningful analysis of the effects of that rescission.

4. Other agencies currently post similar data with no controversy or concern about worker privacy

As noted in the preamble to the final rule, MSHA, a Department of Labor agency with a mission similar to OSHA's, has collected very similar data (including some of the data fields OSHA claims in the NPRM to be "particularly sensitive") on every mine injury no matter the number of miners employed at the mine since at least 1978. (This is relevant since the likelihood of an injured individual being personally identified by incident-specific information is significant in small establishments.) The specific fields included in this requirement are listed and discussed in MSHA's Report on 30 CFR Part 50, submitted as an attachment to these comments.⁹

More than fifteen years ago, once the web became an important tool for data collection and dissemination, MSHA began posting injury-specific data on the web and there are now more than 225,000 MSHA injury reports publicly available.¹⁰ These are the same data that OSHA now claims will threaten worker privacy. Yet even with this very large number of MSHA reports available to the public, the data have generated little or no controversy and we know of no reports that worker privacy was adversely impacted by the collection or posting of these data. Furthermore, the Department of Labor has never made any effort to modify MSHA's injury data collection and posting system.

In addition to MSHA, two Department of Transportation agencies collect and post for public access. The Federal Railroad Administration (FRA) posts Accident Investigation Reports filed by railroad carriers or made by the Secretary of Transportation, and the Federal Aviation Administration (FAA) posts National Transportation Safety Board (NTSB) reports about aviation accidents. These reports include personally identifiable information about employees, including job history and medical information. We know of no privacy concerns raised about these postings.

5. The Final Rule contains adequate protections for worker privacy and OSHA provides no evidence that collecting these data increases privacy risk

As noted above, the NPRM claims that OSHA conducted a re-evaluation of the utility of the forms in terms of the risks to worker privacy. The proposal states that "OSHA has preliminarily determined that the (substantial) benefits to worker privacy outweigh the (uncertain) foregone benefits to enforcement." Yet the NPRM contains no information about how OSHA conducted this re-evaluation. It is not possible to comment on the agency's preliminary conclusions or the "(substantial) benefits of worker privacy" without knowledge of how the conclusions were reached.

In its previous regulatory proceedings, OSHA's evaluated the original regulation's risk to worker privacy, including whether there have been any detrimental impacts caused by the collection and posting of these data by MSHA, FRA and the FAA. However, in its current efforts, OSHA has provided no evidence that it considered the experience of these other agencies (or of any other public health and safety agencies for that matter) in this re-evaluation.

The Final Rule (on page 29625) currently in effect presumes the data collected by OSHA will be made public, but without information that would endanger worker privacy.

OSHA intends to post the establishment-specific injury and illness data it collects under this final rule on its public Web site at www.osha.gov. The publication of specific data fields will be in part restricted by applicable federal law, including the Freedom of Information Act (FOIA), as well as specific provisions within part 1904. OSHA does not intend to post any information on the Web site that could be used to identify individual employees.

OSHA assured the public when it issued the original 2016 regulation that all confidential information would be protected. This would include the information on the left side of the 301 Form, specifically workers' names, birthdates, names of their doctors, etc. Courts have unanimously agreed that OSHA may protect confidential information from Freedom of Information Act requests. Nevertheless, OSHA now argues that it's possible, should confidential information be requested under the Freedom of Information Act, that some court in the country could someday allow that confidential information to be released to the public.

OSHA warns that "That risk remains so long as there is a non-trivial chance that *any* court in *any* of the nation's 94 federal judicial districts might issue a final disclosure order after the exhaustion of all available appeals." Arguing that the risk is "not speculative," the proposal cites an organization that in 2017 "invoked FOIA to request that the Department produce electronically-submitted information from Forms 300, 300A, and 301."

This argument is frivolous. First, it is highly unlikely that a court would allow confidential information to be revealed under a FOIA request. OSHA provides no evidence aside from pure speculation. Second, no confidential information is being collected by OSHA that would be put at risk by a rogue court decision. In discussions with the Office of Management and Budget, OSHA committed to develop a web-based program that would only collect non-confidential information. Any confidential information that would be submitted by the employer (such as birthdate) would be converted into "age." As a result, if some court did someday rule that OSHA was required to reveal confidential information that it had acquired as part of this regulation, OSHA would not be in possession of the information.

It is important to note that the proposal cites an organization invoked FOIA to request "electronically submitted information." Even if the court grants the request, no confidential information would be available as part of the "electronically-submitted information."

The other example OSHA uses to show that the risk is "not speculative" is a lawsuit by former OSHA employee Adam Finkel requesting information on OSHA employees who may have been exposed to toxic beryllium dust in the course of their jobs that OSHA lost in 2006. But Finkel never sought, nor did he receive, identifiable information, and the court only ordered the de-identified results to be handed over. OSHA's use of this case in its argument is somewhat garbled, but they speculate that despite the fact that the court never ordered identifiable information to be released, "it is reasonably foreseeable" that a future court could.

6. The costs of electronic submission of Form 300 and 301 data are not burdensome to employers. In fact, they are miniscule.

Before promulgating Section 1904.41(a)(1), OSHA conducted surveys of employers, collecting data on how employers entered, and stored data used in the Surveys conducted by OSHA found almost all establishments with 250 or more workers track their workplace injuries electronically. Sending files containing these data, with certain fields dropped or redacted, is a tiny cost to these employers most of whom, since their establishments have 250 or more employees, are by definition large employers. The Final Economic Analysis (FEA) of the Final Rule noted:

OSHA agrees with commenters who stated that larger companies (those with 250 or more employees) have the resources to electronically submit injury and illness data to OSHA in the first year. According to commenters, in many cases, larger companies already keep OSHA injury and illness records electronically, so a requirement to submit such records electronically is not unduly burdensome.

In the Final Rule, OSHA estimated that 33,674 establishments would be required to submit Form 300 and 301 data electronically. OSHA is currently estimating an annual cost to these employers of \$8,699,173. This averages to \$258.34 per establishment per year. Given that each establishment has at least 250 employees, and many have far more, the average cost of submitting the data is less than \$1 per employee per year. This cannot under any reasoning be termed “burdensome.”

Even these miniscule estimated establishment-specific costs of the electronic submission of data to OSHA are likely to be far higher than the actual costs to employers, since the NPRM assumes all the data will be entered by hand for electronic submission. Details of the methods used to estimate the costs to employers are included in FEA but were omitted from this NPRM. In that FEA (on page 29690), OSHA explained its belief that

many large establishments subject to this requirement will already be keeping their records electronically and will export or transmit the required information rather than entering it into the web form. This will substantially reduce the time needed to comply with the reporting requirement. However, the estimates contained in the Final Economic Analysis (FEA) and the ICR are calculated with the assumption that all submissions will be made by manually entering the required data via the web form. No time savings are included in these estimates for employers that will submit their data through a batch file upload or electronic transmission.

7. In proposing to rescind this reporting requirement, OSHA is rejecting its statutory mandate and making statements unsupported by evidence

OSHA’s statutory mandate is to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources” (29 U.S.C. 651(b)) “by providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of this Act and accurately describe the nature of the occupational safety and health problem” (29 U.S.C. 651(b)(12)).

Each year, employers record more than three million injuries on their OSHA logs. The actual number of injuries is far higher;¹¹ BLS acknowledges that many injuries are not recorded on these logs.¹² These statistics demonstrate that the current state of worker protection in the US is not adequate and that OSHA must do more to fulfill its statutory directive.

The evidence cited above, including the findings of the NASEM report, clearly show that the proposed rescission, if promulgated, will reduce safety and health protections. Yet the NPRM contains the statement “OSHA believes that this proposal **maintains safety and health protections** for workers while also reducing the burden to employers of complying with the current rule.” (emphasis added)

In the first place, it is not OSHA’s job simply to “maintain safety and health protections.” To achieve the objectives of the Act, it is OSHA’s job to strengthen safety and health protections. Even more important, though, this proposal does not even maintain safety and health protections; it does the opposite, removing a tool that OSHA, employers, workers, researchers and the public can use to strengthen safety and health protections.

8. In the NPRM, OSHA fails to provide adequate information or detail to enable stakeholders to comment on the analyses on which its decision to withdraw the regulation are based.

The primary assertion supporting this NPRM is the statement by OSHA that

the Department has re-evaluated the utility of the Form 300 and 301 data to OSHA for enforcement purposes and preliminarily determined that its (uncertain) enforcement value does not justify the reporting burden on employers, the burden on OSHA to collect, process, analyze, distribute, and programmatically apply the data, and— especially—the risks posed to worker privacy.

OSHA asserts four times in the NPRM that it has re-evaluated the utility of collecting the 300 and 301 Forms to enforcement and has preliminarily determined it is not justified given its “(uncertain) enforcement value.”

The proposal further states that “OSHA has preliminarily determined that the (substantial) benefits to worker privacy outweigh the (uncertain) foregone benefits to enforcement.”

Yet nowhere in the NPRM or the docket is there even the tiniest bit of information about the methods employed for this re-evaluation. Without providing a description of how that analysis was conducted, what data were used, how the re-evaluation’s conclusions were reached, or how OSHA calculated that the alleged burdens and risks outweigh the utility of the data, stakeholders cannot comment on the re-evaluation and its usefulness as justification for eliminating or modifying a regulation that was promulgated through full notice and comment rule-making.

In the NPRM, OSHA poses the question “What risks to worker privacy are posed by the electronic collection of information from Forms 300 and 301 from establishments with 250 or more workers?” This question and others posed in the NPRM are appropriate for a Request for Information, not a Notice of Proposed Rulemaking.

The agency fails to provide a single example of the actual risks to worker privacy posed by OSHA's electronic collection of injury data while touting the "substantial benefits" that workers would allegedly gain through this rescission. It is not adequate for OSHA to state it is rescinding a rule because of hypothetical risks to worker privacy. Stakeholders cannot possibly comment on an OSHA decision driven by risks of which the agency is not even able to provide a single credible example and must ask the public what these risks might be.

OSHA is not permitted to propose rescinding a regulation that went into effect after notice and comment because OSHA asserts that it has preliminarily concluded it may increase risk to worker privacy, without providing any of the relevant evidence used in reaching that conclusion.

Similarly, in the NPRM, the agency asserts that "OSHA is unsure as to how much benefit such data would have for targeting, or how much effort would be required to realize those benefits." OSHA is obligated to estimate these benefits to the extent it is possible to do so. While it may be difficult to quantify the benefits with precision, there is evidence showing that substantial benefits would accrue from collecting these data, including the NASEM study which finds that access to these data will provide benefits, and safety and health will be improved if this regulation is implemented. Yet OSHA failed to even consider the NASEM study in determining the benefits that the data would have for targeting.

Under the provisions of the Administrative Procedures Act, stakeholders must be able to evaluate the evidence used by OSHA to reach this conclusion in providing comments about the NPRM. Yet, while OSHA asserts that it is unsure as to how much benefit such data would have for targeting, the agency also believes that rescinding the requirement for establishments to submit data from Forms 300 and 301 would retain "the lion's share of the enforcement benefits realized by the 2016 rule." If the agency is "unsure" about the benefits of collecting the Form 300 and 301 data, it has no basis for making this statement and is in violation of the APA.

The amount of agency effort and resources required to realize these benefits can and should be estimated by the agency, since it is central to a decision to rescind a regulatory requirement. An agency with an annual budget of more than \$550 million and a staff of more than 2,000 professionals can estimate the effort required to conduct certain activities. But even if the OSHA assertions were true (and we do not believe they are true), simply to state that "OSHA is unsure as to ... how much effort would be required" is not adequate information to allow for accurate and meaningful stakeholder comments.

If OSHA wants to proceed with rescinding this valuable reporting requirement, it must withdraw the NPRM and issue a new one, backed by adequate data and analyses on which stakeholders can comment.

9. OSHA has prejudged the outcome of this regulatory process.

The final rule that OSHA is proposing amending was issued May 12, 2016 and was fully effective January 1, 2017. The regulation requires covered establishments to submit the required data from Forms 300 and 301 (in addition to Form 300A, already being collected) before July 1, 2018. For employers to comply with this regulation and submit the data electronically to OSHA, the agency would have had to develop a system to receive the data electronically, just as it did

for the summary data. There is no evidence that OSHA has developed such a system, even though the agency has had more than two full years to do so.

Furthermore, in the final rule, OSHA made several commitments that would have provided important information regarding the issues raised in this NPRM. Specifically, in response to concerns about inaccurate data, OSHA committed to looking at examples of electronic data collection efforts by other federal agencies. In addition, on page 29647 of the Final Rule, OSHA committed to form a working group with BLS to assess data quality, timeliness, accuracy, and public use of the collected data.” To attempt to amend the rule without having fulfilled these commitments to gather more information is further evidence of the agency prejudging the outcome.

It would be arbitrary and capricious for OSHA to proceed with this rule-making without having fulfilled these commitments. Yet OSHA provided no evidence that it has even launched these discussions, much less utilized any information obtained during this process. Before proceeding, OSHA needs to fulfill these commitments, gather the information generated in the efforts, and share it with the public. Without this, it is not possible to comment meaningfully on OSHA’s re-evaluation of the data collection requirement.

Through its inaction over the course of many months, OSHA has demonstrated that it has already decided on the outcome of this NPRM. The evidence is compelling that this NPRM is simply a paper exercise: the result has already been determined.

Comments on Requiring Establishments to submit Employer Identification Numbers

Apart from our comments above opposing the component of the proposed rule eliminating the requirement that large establishments electronically submit data from Forms 300 and 301, we support OSHA’s proposal to require establishments to submit their EIN along with their injury and illness data. We agree that this requirement could reduce or eliminate duplicative reporting, and also assist the efforts of data users (including and especially OSHA itself) in improving the safety and health of workers in the nation’s workplaces.

In our experience, in the course of enforcement activities, OSHA sometimes has difficulty identifying the relationship between establishments owned by the same employer. The names of the same employer might be listed differently in OSHA’s data base; for example, International Business Machines might be listed with that name, or as IBM, or I.B.M. EIN reporting will improve OSHA’s enforcement efforts and increase fairness and consistency in enforcement.

OSHA notes that EIN reporting will help “users of the SOII data to identify occupational injury and illness trends and emerging issues.” Needless to say, this would also be true of users of the data from Forms 300 and 301 that OSHA is obligated to collect, but which the Agency is now proposing not collecting.

It is notable that in supporting EIN reporting, OSHA is embracing a recommendation of the NASEM report that also supports expanding OSHA’s data collection activities and which we quote from extensively above. Specifically, the NPRM notes on page 36500:

Collecting the EIN would thus accord with a recommendation in the 2018 National Academy of Sciences, Engineering, and Medicine report on A Smarter National

Surveillance System for Occupational Safety and Health in the 21st Century: “To avoid duplicate reporting, OSHA and BLS should integrate data-collection efforts so that employers selected in the annual BLS sample for SOII but reporting electronically to OSHA need not make separate reports to BLS”

Conclusion

In conclusion, amending OSHA’s recordkeeping and reporting requirements to rescind the requirement for large establishments to electronically submit Forms 300 and 301 data annually to OSHA is unsupported by any evidence provided by OSHA in the NPRM. In this NPRM, OSHA is arbitrarily and capriciously reversing long held positions and policies without providing any of the empirical data or reasoning that supports this decision. We call on OSHA to withdraw this component of the NPRM. If OSHA wants to proceed with it (and we do not think it should) it must conduct substantial additional analyses to justify proposing this change.

Whatever decision OSHA makes regarding this NPRM, OSHA cannot legally ignore the regulation that is in effect. The United States is a nation governed by laws. Agencies cannot arbitrarily decide to ignore regulations that current leadership doesn’t like. OSHA is obligated to develop and implement as quickly as possible a system to collect the data from Forms 300 and 301 that establishments with 250 or more employees are required to submit.

Thank you for considering our comments.

(signed)

David Michaels

Jordan Barab

Gregory R. Wagner

Attachment: MSHA Report on 30 CFR Part 50

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- ¹¹ See BLS webpage "Research on the Completeness of the Injury and Illness Counts from the Survey of Occupational Injuries and Illnesses" at: <https://www.bls.gov/iif/undercount.htm>
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Want to know if a job is safe? Th government should let you find

BY DAVID MICHAELS AND DAVID WEIL, OPINION CONTRIBUTOR - 05/30/17 02:40 PM EDT

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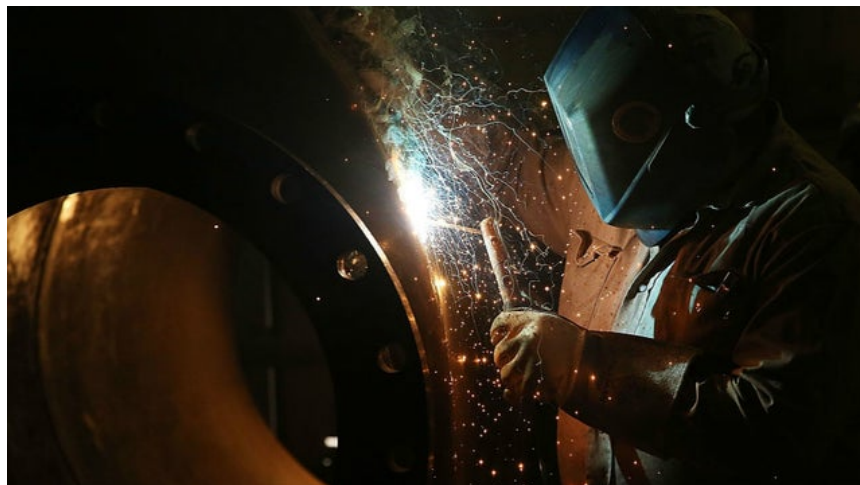
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Wouldn't it make sense to be able to find out before applying for a job in a dangerous industry, which firms have a safe record, and which do not? The Obama administration thought the answer was "yes" and proposed a system to provide easy accessibility to workplace safety information via the web.

But the Trump administration apparently disagrees and announced last week an indefinite delay in a system to make this possible. This decision means higher risk of injury for many thousands of workers.

For almost 50 years, employers in high hazard industries have been required by the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) to keep a log of the injuries suffered by their employees. These logs provide roadmaps of the causes of workplace injuries, allowing employers and workers to prevent more from occurring.

Last year, OSHA issued a rule requiring these employers to send a summary of the injury data they had already collected to OSHA by July 1 this year. The cost to employers would be minimal, since they would be sending in data they have already collected. At most, it would require a few minutes on a website. OSHA would then make the information available to the public on the internet.

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OSHA had planned to use these data to better target its inspections and free consultation services for small businesses, enabling the agency to be more efficient and effective in its use of taxpayer's money.

More importantly, OSHA was taking advantage of the widely recognized finding that transparency can be a powerful driver of behavior. Making injury data available to the public would likely "nudge" more dangerous employers to better protect their workers.

Why? First, employers compete to attract the best possible workers at prevailing wage rates. Although workers can find out about wages and benefits at prospective employers, information on safety is harder to come by. That's a problem because there is tremendous variation in injury rates among employers, even in the same industries in the same towns.

Hospitals and nursing homes are among the most dangerous places to work, with injury rates higher than construction or coal mining. The chances of being hurt in one nursing home can be five times that of another facility in the same town. Just as consumers benefit from information regarding which cars have the better safety records, workers would benefit from ready access to information on injury risks in making job choices. Nursing homes with low injury rates become more attractive to workers while those with high rates face pressures to improve.

Injury rate transparency can work through a second path. Evidence shows that firms that focus on quality production generally have low injury rates because work processes are tightly managed. High injury rates can indicate poor management and lax standards. If consumers care about product or service quality, injury rate disclosure can be a proxy of operational quality. It's not surprising then that many responsible employers, proud of their low injury rates, support safety transparency.

Returning to the nursing home case, high worker injury rates may reflect inadequate staffing or lack of investment in safety equipment like lifts to help patients get out of bed without injuring the worker or dropping the patient. If injury rates were public, more dangerous nursing homes would face greater pressure to improve safety performance not only to draw skilled job seekers, but to attract potential patients.

Research demonstrates that carefully crafted transparency policies can improve public safety. One compelling illustration of this is posting health inspection grades in restaurant windows. Consumers, eager to avoid food-borne illness, take these grades into account when deciding where to dine. After a grading program started in Los Angeles, revenues rose at establishments with high marks for food safety and fell at those with low ratings. More importantly, hospitalizations for food-borne illnesses decreased significantly.

Worker safety remains a huge challenge: [13 workers are killed daily in U.S. workplaces](#), and more than three million are seriously injured each year. Yet resources for protecting workers are extremely limited. Based on current staffing, it would take more than 150 years for OSHA to conduct a single inspection at each of the workplaces under its jurisdiction.

Our message to President Trump is simple: disclosure of injury rates could play a big role in making workplaces safer by creating incentives that lead employers to improve their safety performance voluntarily. That's a commonsense way to save the lives and limbs of thousands of working people.

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Phylmar Regulatory
Roundtable, Elizabeth Treanor,
Received 5-31-2019

31 May 2019

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RE: Electronic Reporting of 300 Logs and 301 Incident Forms

Dear Mr. Nguyen:

The Phylmar Regulatory Roundtable- OSH Forum (PRR) appreciates this opportunity to provide comments following our participation in the 9 May 2019 Advisory Committee on Electronic Reporting, convened by the Division of Occupational Safety and Health (DOSH). PRR is a group of 40 companies and utilities; 15 of the members rank among the Fortune 500. Combined, PRR members employ more than 847,000 individuals in the U.S. and have annual revenues of more than \$937 billion. PRR members are committed to improving workplace safety and health. Toward that end, PRR provides informal benchmarking and networking opportunities to share best practices for protecting employees. In addition, participating entities work together in the rulemaking process to develop recommendations to federal and state occupational safety and health agencies for effective workplace regulatory requirements.

PRR member companies have electronically filed their 300A Summaries with Federal OSHA, using its Injury Tracking Application ([ITA](#)) and will certainly be covered in any regulation DOSH decides to move forward with regarding electronic submission of 300 Logs and 301 Incident Reports. These PRR comments were developed based on the experience, guidance and recommendations of PRR members. Of course, the opinions expressed below are those of PRR, and can differ from beliefs and comments of individual PRR members.

Since there is no draft regulation for us to specifically comment upon, we offer the following general comments for DOSH's consideration in its deliberations regarding the next steps.

A. Collecting 300 Logs and 301 Incident Reports will Provide Valuable Information: PRR agrees with comments made during the 9 May 2019 Advisory Committee meeting that having these data will help labor representatives, researchers, and, for example the California Department of Public Health, Occupational Health Branch, develop injury prevention outreach materials for workers, as the data on the 300As are too broad for meaningful intervention. We believe that knowing, for example, whether injuries included on the 300A

were musculo-skeletal disorders, chemical burns, electric shocks, or falls, will be useful to develop targeted solutions for specific jobs. In addition, the information would be useful to high-performing companies seeking benchmarking opportunities to improve their performance.

- B. Although Stakeholders Represented Concerns About Privacy as “Pretext,” There are Legitimate Privacy Issues that Should be Considered:** All stakeholders at the meeting mentioned that Federal OSHA, in its May 2016 final [rule](#) was clear that it did not require employee name and address or name of physician and treatment location to be provided. However, the final 2016 rule did require electronic submission of information from the OSHA 301 Incident Forms, including in Sections 3-5: date of birth, date hired, and gender. For Form 300, electronic submission would not have included section (B), the employee’s name, but it would collect job title (Section C), location (E), description of injury (F) and category of illness (2-6). PRR believes that this information is a privacy concern because required details would have been considered Sensitive Personally Identifiable Information (SPII-see definition below), especially when the data submitted to and stored in the OSHA database can be linked with other publicly-available data bases to determine identity.

The U.S. Department of Homeland Security (DHS) defines SPII in its: [Handbook for Safeguarding Sensitive Personally Identifiable Information](#) as:

“Personally Identifiable Information, which if lost, compromised, or disclosed without authorization, could result in substantial harm, embarrassment, inconvenience, or unfairness to an individual.”

PRR used this definition when evaluating the privacy risk to employees that could result from release and publication of case-specific information on Forms 300 and 301. For a hypothetical example, it is known in a community that the senior operator at a local facility is Sally Brown. Reporting her date of birth and job title will essentially disclose her identity quite directly, publicly disclosing her medical history to future employers, insurers, and acquaintances.

OSHA’s May 2016 final rule required collecting (with the intent of making publicly available) two datasets (Forms 300 and 301) that are specific to individuals, one of which includes the employee’s date of birth and gender (Form 301). Because of the ability to obtain additional information from external sources (e.g., via internet searches), there is an increased risk (through linkage) that individuals could be identified through reidentification of redacted fields.

- C. Should DOSH Decide to Move Forward, it Should Carefully Consider the Privacy Concerns and Address them in Any Draft Regulation:** PRR believes that the risk to worker privacy is not speculative because (1) Public Citizen (not a researcher) submitted a blanket request to federal OSHA under the Freedom of Information Act (FOIA) for all information on Forms 300 and 301; and (2) release of medical test results previously deemed by Federal OSHA to be exempt from FOIA disclosure was granted by a court in [Finkel v. U.S. Department of Labor](#).

Strong presumptions of public access to government records are the foundation of FOIA and the California Public Records Act. Courts have consistently construed exemptions from disclosure narrowly and agencies' disclosure obligations broadly. Therefore, agencies should limit collection of private information that is not entirely necessary to their functions. In proposing to eliminate requirements for submission of Forms 300 and 301, federal OSHA concluded that "its collection of these individual forms' information poses a non-trivial risk of compelled disclosure – endangering worker privacy – under FOIA." [83 Federal Register 36497]. PRR strongly agrees.

Given the risks of release of private information, including medical conditions, DOSH's collection of excessive detail from Forms 300 and 301 may actually inhibit employees from reporting important occupational health incidents, contrary to the purpose of OSHA laws, the employer's need to be aware of all incidents so that corrective actions may be taken, and public policy.

Should DOSH determine it will develop regulations requiring submission of 300 Logs and 301 Incident Forms, we strongly recommend that it ensure that sensitive worker information is not disclosed. One possibility is to design the data base with ways to shield the information to prevent unauthorized uses but still retain it for researchers' legitimate purposes. We understand this will be a challenge, as the best designed encrypted data systems are expensive, difficult to maintain and often defeated in short order.

- D. DOSH Should Provide Protection for Employers Who Provide Data:** One of the recommendations made by PRR during the 9 May 2019 meeting was that DOSH include a provision requiring employers to get employee consent before electronically submitting information that is personal and private to an employee. We believe this would address many of the concerns related to privacy.
- E. DOSH Needs to be Clear on the Uses of the Data for Both State and External Interests:** If DOSH decides to go forward with collecting the information and developing a regulation, it needs to be clear on what it intends to do with the data it collects. DOSH already collects information from employers that it does not use. For example, manufacturers or distributors are required to provide DOSH with Safety Data Sheets (SDSs) under [5194\(g\)\(13\)](#), and we are aware of no review or action ever being taken by the Agency. Similarly, the Occupational Carcinogen Control Act of 1976 requires each employer using a carcinogen to submit a written report of "the use or any incident which results in the release of a potentially hazardous amount of a carcinogen into any area where employees may be exposed." Further, DOSH is to transmit a copy of each report to "bargaining representatives known to them of affected employees of the reporting employer. (See 8 CCR [5203](#).) We are aware of no action being taken since 1976 on employer reports submitted under this requirement. We believe that DOSH should clearly identify the uses to which it will put the data it collects.
- F. We Agree with Other Stakeholders that the Database Must be Robust and the Technology Must Match the Request:** We recommend that DOSH assure that the system will be up to the task of having employers electronically submit the data. The Federal OSHA

website shut down in August 2017 due to a potential hacking threat reported by the Department of Homeland Security, and later, the system seemed to have been overwhelmed by the number of users. We also recommend that DOSH structure its electronic filing requirements differently than did Federal OSHA and not include date of birth, date of hire, or job title which may be linked with other data to determine the identity of the worker. Finally, we recommend that DOSH provide for a “test” year for data entry to provide the opportunity to work out any “bugs” in the system, as well as curtail the stress and anxiety employers faced with required submissions to Federal OSHA in 2017. Federal OSHA extended the deadline in 2017 for an additional four months to accommodate the hacking threat and the crash.

G. In the Meantime, DOSH Enforcement Should Follow-Up on Each Example of Employers Failing to Follow the Legal Requirements to Provide Access to the OSHA 300 Logs: PRR was surprised to hear at the 9 May 2019 Advisory Committee that some employers are not complying with the existing requirements to provide access to workers and their representatives to the 301 Logs, and provide workers access to their own 301 forms. We strongly urge DOSH enforcement to get details from the labor representatives in attendance and begin enforcement actions.

H. DOSH Enforcement Should Also Work with Other DIR Divisions to Assure that Employers Who Retaliate Against Employees for Exercising Rights be Held Accountable: During the 9 May meeting, labor stakeholders also reported that some employers retaliate against employees for exercising their rights to see their own OSHA 300 Logs. PRR believes that this conduct is outrageous, and is not to be tolerated. We know that several divisions within the Department of Industrial Relations (DIR) work with DOSH in the area of retaliation, and we recommend that these efforts be stepped up, particularly in the industries identified at the meeting. We believe that a healthy competitive marketplace requires that there is a level playing field.

I. We Agree with other Stakeholders that DOSH Should Explore Adding these Requirements onto Existing Employer Reporting Obligations, Should DOSH Decide to Move Forward: Although we do not have first-hand knowledge of the databases mentioned by stakeholders at the Advisory Committee meeting, we agree with several of them about the following:

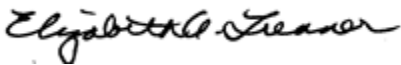
- An Injury Tracking Application, similar to that used by Federal OSHA, should be considered. OR
- Look to other data collection systems like the census of wages and employment found ([here](#)) or the Division of Workers’ Compensation ([DWC](#)) data base. This way, employers would only need to enter the establishment and ID numbers once and can upload data to comply with various reporting requirements. OR
- Investigate the system used by the Bureau of Labor Statistics ([BLS](#)) for injuries and illnesses which many employers are required to use.

Closing

PRR members are very interested in working with DOSH as this process continues, particularly once draft language is available. We would appreciate being included in any distribution about additional meeting announcements or other updates.

Please let me know if you have any questions.

Sincerely,



Elizabeth Treanor

Director

Phylmar Regulatory Roundtable – OSH Forum

**PRR Sacramento Office
P. O. Box 660912, Sacramento, California 95866
+1.916.425.3270**

National Employment Law Project

Debbie Berkowitz,

Received 5-8-2019



Christine L. Owens
Executive Director

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Glenn Shor
Department of Industrial Relations
Division of Occupational Safety and Health
1515 Clay Street, Suite 1901
Oakland, California 94612
Via Email at: ElectronicReporting@dir.ca.gov

May 8, 2019

Dear Mr. Shor and Cal/OSHA:

The National Employment Law Project (NELP) submits these comments to assist the Cal/OSHA Advisory Committee meeting in evaluating how to implement the changes necessary to protect the goals of the Improve Tracking of Workplace Injuries and Illnesses Standard. We support the adoption and implementation of the requirement for large companies (250 or more) to electronically submit more detailed injury and illness information to the agency, specifically the OSHA 300 and 301 forms. We further support the agency making this information available to the public. California must adopt these provisions, because they are necessary to prevent dangerous employers from hiding workplace injuries and will seriously hinder Cal/OSHA's efforts, as well as the efforts of the public health community, workers and employers to identify and prevent workplace injuries.

NELP is a non-profit research and policy organization that for more than 45 years has sought to ensure that America upholds the promise of opportunity and economic security for all workers. NELP has offices in Washington, DC; New York City, NY; and Berkeley, California.

It is important for Cal/OSHA and this advisory committee to know that there **are significant benefits to the agency of** collecting the information from the 300 and 301 forms from larger establishments. In the 2016 Federal rulemaking, the preamble had a robust discussion that such information will significantly increase the agency's ability to improve workplace safety and health and prevent occupational injuries and illnesses through more effective outreach, compliance assistance and enforcement.

Of importance to Cal/OSHA, the provision requiring regular electronic reporting of more detailed data from larger establishments will allow the agency to obtain a much larger data set of more timely, establishment-specific information about injuries and illnesses in the workplace. This information will help Cal/ OSHA in targeting its enforcement and compliance assistance resources more effectively. For example, Cal/OSHA will be better able to identify emerging hazards, and reach out to employers whose workplaces might include those hazards. Cal/OSHA could also send hazard specific educational materials to employers who report high rates of injuries or illnesses related to those hazards.

The Council of State and Territorial Epidemiologists submitted key comments to Federal OSHA (as part of the 2016 rule making) on the benefits to occupational health surveillance and the prevention of work related injuries and illnesses from the submission of the more detailed injury data from the forms 300 and 301. They stated:

As public health practitioners, we underscore the critical importance of collection, analysis and dissemination of health data to those who need to know for purposes of prevention [Halperin and Baker, 1992; Lee and Thacker, 2011]. Surveillance is an essential component to any comprehensive approach to prevention work-related injuries and illnesses, whether it is at the federal, state, local or establishment level. OSHA's proposal to electronically collect and make available the data employers already record on work-related injuries and illnesses would substantially enhance occupational health surveillance capacity in the United States. These establishment specific data would increase OSHA's ability to target is limited enforcement and compliance assistance resources more effectively. Access to these data would also facilitate public health agency efforts to reduce work-related injuries and illnesses in the states, and significantly increase the potential for more timely identification of emerging hazards. Additionally, we believe that the electronic collection of these data provides OSHA with a valuable opportunity not only to improve the standardization and quality of the data recorded and reported by employers but also to promote use of data by employers and workers to reduce work-related injuries and illness at the establishment and company-wide levels.

In 2000, Massachusetts enacted legislation requiring hospitals licensed by the Massachusetts Department of Public Health (MDPH) to develop sharps injury prevention control programs [MGL Chapter 111 sec 53D]. This law echoed the specific requirements of the OSHA bloodborne pathogen standard [29CFR 1910.1030] and added a requirement that hospitals report select data from the OSHA required log of sharps injuries annually to MDPH. MDPH hospitals and hospital workers collaborated in developing a system for reporting standardized data electronically. Each year since 2001, 100% of the MDPH licensed hospitals (n= 99) have submitted data on sharps injuries annually to the MDPH. In recent years, data from all hospitals, which range in size from less than 150 to over 20,000 employees, have submitted electronically through a secure electronic transmission. Annual hospital specific data and statewide reports prepared by MDPH provide information on patterns of sharps injury and sharps injury rates for use by hospitals and hospital workers as well as MDPH. (Findings indicate sharps injury rates have declined and use of devices without engineered safety features has increased, but that more remains to be done to reduce sharps injuries [Laramie, et al., 2012].) **This experience in Massachusetts indicates that electronic reporting of case level occupational injury data to OSHA by employers is feasible and can provide useful information for targeting prevention efforts at multiple levels.** (83 FR 36494-36507 Ex. 1106).

Without reference to any supporting evidence or facts, Federal OSHA has rescinded these more detailed reporting requirements for large employers in order, the agency alleges, to protect a worker's privacy. Such an assertion ignores the abundance of evidence contained in the 2016 rule that Personally Identifiable Information (PII) would be protected. Further, the agency was unable to show that any worker or representative had raised any privacy concerns; in fact, it was worker representatives that supported the submission of the 300 and 301 forms. In addition, the agency now claims it has reevaluated the utility of the Form 300 and 301 data for agency enforcement efforts and preliminarily determined that its enforcement value does not justify the reporting burden on employers. Again, relying on no new information, the agency arbitrarily reverses the conclusions of the 2016 final rule that found enormous benefits—not just in agency enforcement but in providing compliance assistance and overall injury prevention efforts.

Thus, the evidence is clear that maintaining the 2016 reporting requirements for large employers for information from the 300 and 301 forms and making that information available to the public would reap substantial benefits to the government, researchers, employers, workers and their representatives in preventing work related injuries and illnesses and fatalities.

There is also substantial evidence that a system to collect the data was almost near completion at Federal OSHA. According to the attached Declaration of Amanda Edens, Director of Technical Support and Emergency Management at OSHA. She states that it will cost about \$318,000 to pay a contractor to finish developing “a secure web portal to collect the data, and to perform testing, quality control, web hosting, technical support, and help desk services.” MS. Edens’ statement shows that the cost to Cal/OSHA would likely be well within DIR’s resources.

We strongly urge Cal/OSHA to adopt and implement the requirement that larger employers (250 or more employees) electronically submit the OSHA 300 and 301 forms to the agency, and that the agency make this information available to the public.

Sincerely,

A handwritten signature in cursive script, appearing to read "Deborah Berkowitz".

Deborah Berkowitz
Safety and Health Program Director

contractor to develop a secure web portal to collect the data, and to perform testing, quality control, web hosting, technical support, and help desk services.¹

3. Moreover, based on my experience, I am highly uncertain whether this significant expenditure of OSHA's resources to collect only one year of data will result in a high quality dataset. In the first year of OSHA's collection of the data from OSHA Form 300A, OSHA estimates that only 36 percent of covered employers submitted the 2016 data, and that the response rate increased to 44 percent for the 2017 data. First-year compliance rates tend to be low because employers lack awareness of the new requirement. OSHA also attributes the low first-year response rate for the data from Form 300A to a perception by some employers that the data would immediately be made public. OSHA anticipates that the response rate for 300A data will continue to increase over time as a result of OSHA outreach and enforcement efforts as employers begin to recognize that OSHA will not be releasing the data immediately.

4. For the 2017 data from Forms 300 and 301, however, I believe the response rate will be significantly lower than the first-year response rate for 300A data, given likely confusion among covered employers and even greater fear of publication of the detailed injury and illness information on OSHA Forms 300 and 301. The original deadline for submitting the 2017 data from OSHA Forms 300 and 301 was July 1, 2018. As to that past deadline, the statute of limitations has run for collecting these data; OSHA has only six months from the occurrence of a violation to issue a citation. 29 U.S.C. § 658(c). With regard to enforcing a future obligation to

¹ In the Tracking of Workplace Injuries and Illnesses final rule, 84 Fed. Reg. 390 (Jan. 25, 2019), OSHA estimated that establishing a secure web portal to collect the data from OSHA Forms 300 and 301 would cost approximately \$450,000 but noted that this estimate was subject to change. 84 Fed. Reg. at 400 n. 14. Since the close of the rulemaking record, OSHA's contractor has provided an updated estimate of \$318,680.40 to develop the capacity to collect the 2017 data from Forms 300 and 301 and support the collection.

submit the 2017 data, OSHA has now rescinded the provision that requires employers to submit the data through a final rule that was published on January 25, 2019, after notice-and-comment rulemaking, and became effective on February 25, 2019. As a result, OSHA has no rule to cite for noncompliance, and employers will not be compelled to send the data to the agency. Given the historically low first-year rates of compliance with OSHA recordkeeping requirements, the six-month statute of limitations for enforcing non-compliance with the July 2018 deadline, and the fact that OSHA has since rescinded the requirement, employer compliance with a future requirement to submit the 2017 data from OSHA Forms 300 and 301 will likely be very low.

Pursuant to 29 U.S.C. § 1746, I hereby certify under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

A handwritten signature in black ink, appearing to read "Amanda L. Edens", written over a horizontal line.

Amanda L. Edens

Charlie Sobel,

Received 5-8-2019

Nguyen, William@DIR

From: DIR Electronic Reporting
Sent: Thursday, August 1, 2019 1:38 PM
To: Nguyen, William@DIR
Subject: FW: Comment for Cal/OSHA Advisory Committee Meeting on Electronic Recordkeeping

From: Charlie Sobel <charlie.sobel@gmail.com>
Sent: Wednesday, May 08, 2019 8:37 PM
To: DIR Electronic Reporting <electronicreporting@dir.ca.gov>
Subject: Comment for Cal/OSHA Advisory Committee Meeting on Electronic Recordkeeping

To Whom It May Concern -

In 2016, I was Senior Advisor to the Assistant Secretary for OSHA of the US Department of Labor. I oversaw a project to build the Injury Tracking Application (ITA), a web-based application that was designed to collect Form 300, 300A, and 301 data under the federal Recordkeeping regulation passed in May 2016. I wanted to provide some information about the ITA and how it was built because I believe that collecting this data is a valuable tool to protect worker safety. Analysis of injury and illness data by Cal/OSHA would enable better targeting and allocation of limited resources, thus increasing the effectiveness of worker safety efforts.

The initial build of the website took approximately nine months. This included the ability to create an account, a user interface for collecting Form 300A summary information, and a database that had been configured to store information from all three injury and illness forms. In addition, the logic required to collect different information based on business size and location had already been determined. In order to protect worker privacy, several fields on the paper form were modified or excluded from the electronic collection. Employee name and address, name of physician, health care facility name and address, and date of death were excluded. Date of birth and date hired were modified in order to gather valuable demographic information while avoiding the collection of Personally Identifiable Information (PII).

The application was opened for public use in mid-2017 to allow companies to submit 300A summary information. The final pieces of the website (primarily the user interface for 300/301 information) were unfortunately never completed because of federal OSHA's decision to abandon the Recordkeeping regulation. If California chooses to go forward with an electronic Recordkeeping rule similar to the federal regulation, building the web application to collect the information would not be a major undertaking, in terms of either time or money, especially since it has already been done once before.

Thank you,
Charlie Sobel

North American Building Trades Unions

Chris Trahan Cain,

Received 5-31-2019



North America's Building Trades Unions

Sean McGarvey
President

May 31, 2019

Brent Booker
Secretary Treasurer

Via email: ElectronicReporting@dir.ca.gov

Newton B. Jones
Boilermakers

Department of Industrial Relations
Division of Occupational Safety and Health
1515 Clay Street, Suite 1901
Oakland, California 94612

Kinsey M. Robinson
Roofers

James P. Hoffa
Teamsters

Terry O'Sullivan
LiUNA

Re: Maintaining Electronic Illness and Injury Reporting Requirements

James Boland
*Bricklayers and
Allied Craftworkers*

Dear Sir or Madam:

Frank Christensen
Elevator Constructors

On behalf of North America's Building Trades Unions (NABTU), our fourteen affiliated national and international construction unions and the building trades councils in the State of California, I am writing to encourage Cal/OSHA to maintain in its recordkeeping rules the detailed injury reporting requirements that the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) included in its 2016 Final Rule, "Improve Tracking of Workplace Illnesses and Injuries," 81 Fed.Reg. 29634 (May 12, 2016), but which the current Administration recently rescinded, 84 Fed.Reg. 380 (Jan. 25, 2019).

Kenneth E. Rigmaiden
Painters and Allied Trades

James T. Callahan
Operating Engineers

Joseph Sellers, Jr.
SMART

Lonnie Stephenson
IBEW

Eric M. Dean
Ironworkers

James P. McCourt
Insulators

Daniel E. Stepano
*Plasterers' and
Cement Masons'*

Mark McManus
UA

NABTU participated in OSHA's initial rulemaking proceedings, strongly supporting the agency's proposed injury and illness tracking rules. We believed then, and continue to believe, that public disclosure of the data contained in the 300 and 301 Forms would greatly advance the purposes of the Occupational Safety and Health Act, by providing the government with vital information to more effectively target both its enforcement and compliance assistance efforts; by providing employers with incentives to improve safety and health conditions in their workplaces; and by providing employers, employees, unions, public health researchers and interested members of the public with data from which they could identify, understand and develop methods for addressing recurring safety and health problems. NABTU applauded the final rule, believing that it not only ensured the public availability of important information, but that the agency had effectively addressed serious privacy concerns raised during the rulemaking proceedings, by carefully tailoring the information disclosure requirements. As explained in more detail in the attached comments, which NABTU filed with OSHA in opposing the agency's proposed roll-back of the rule, we believe that OSHA's rescission of these requirements was an unwarranted mistake, which serves no interest other than protecting employers from publicly acknowledging the problems in their workplaces, while diserving the workforce that OSH Act is intended to protect.

Value on Display. EVERY DAY.

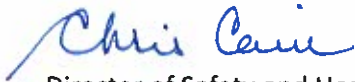
nabtu.org | 202.347.1461 | 815 16th Street, NW, Suite 600 | Washington, DC 20006

AB 2334 Comments Page No. 000340

For the reasons stated in the attached comments, NABTU urges Cal/OSHA to retain in its regulations the requirements that employers electronically submit their 300 and 301 Forms, along with the 300A Form, to ensure that your program continues to be out in front in assuring every working person in your State a safe and healthful workplace.

Sincerely,

Chris Trahan Cain



Director of Safety and Health

**NABTU COMMENTS TO OSHA ON
PROPOSED REVISIONS TO INJURY AND ILLNESS TRACKING RULE**
Docket Number OSHA-2013-0023

North America's Building Trades Unions (NABTU) appreciates the opportunity to submit these comments in response to the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA's) notice of proposed rulemaking, titled *Tracking of Workplace Injuries and Illnesses*, published at 83 Fed.Reg. 36494 (July 30, 2018).

For the reasons set forth below, NABTU opposes OSHA's proposal to amend its 2016 final rule to Improve Tracking of Workplace Injuries and Illnesses ("2016 Rule"), by rescinding the requirement that establishments with 250 or more employees annually and electronically submit detailed incident information from OSHA Forms 300 and 301.

As background, under current OSHA law, most employers must keep records of injuries at the workplace on these two forms. The 2016 Rule simply required large employers also to submit them to OSHA. OSHA would then place the data in a central public database, scrubbed of personally identifiable information (PII), making it available to generate data-informed evidence to target enforcement and outreach, identify problems before they occur, correct hazards and conduct research. The 2018 proposed revised rule, however, would require employers only to submit the summary of injuries and illnesses aggregated on OSHA Form 300A. This reversal in logic comes after OSHA specifically concluded two years ago that the summary data alone provide no value for assessing and analyzing the *conditions that lead to injuries or illnesses* and would not adequately enable the agency, companies, or the interested public to identify and prevent recurring safety and health problems. *See* 81 Fed.Reg. 29624, 29626 (May 12, 2016). Repealing the common sense 2016 Rule would keep employers, working

people, the public and OSHA in the dark about dangerous conditions in America's largest workplaces. It would make it harder for companies to have the information they need to identify hazards and take action to prevent serious injuries, illnesses and deaths. As a result, the injury and illness tracking rule would contribute nothing towards reducing the number of U.S. workers killed and injured on the job.

Stated another way, before enacting the 2016 Rule, OSHA had limited access to timely establishment-specific injury and illness data because employers were not required to regularly send OSHA the 300 and 301 Forms they were already required to complete. This impeded the agency from developing data-informed policies to target the most hazardous worksites for enforcement and compliance assistance activities. *Id.* at 29628. This also resulted in a huge information gap for researchers and others focused on uncovering the often hidden causes and conditions that lead to serious injuries and illnesses. The 2016 Rule addressed this problem, in a way that carefully balanced information needs with concerns about protecting employee privacy. The 2018 proposed rule would reinstate these barriers, thereby thwarting OSHA's ability to fulfill its mandate more effectively, while at the same time extinguishing the potential that affected employers, employees, employee representatives, and the interested public could use this enhanced database to better protect the nation's working people and ultimately make businesses in the U.S. more competitive. Below are four additional points that are important for OSHA to consider as it weighs the merits of fully retaining the requirements of the 2016 Rule.

I. It Would Advance the Purposes of the OSH Act to Retain the 2016 Rule's Requirements to Make Public the Detailed Information on Forms 300 and 301

In defining the ways it intended OSHA to fulfill its mandate of "assur[ing] so far as possible every working man and woman in the nation safe and healthful working conditions," Congress enumerated several goals that underlay the 2016 Rule. Thus, Congress directed the

agency to provide reporting procedures that would “accurately describe the nature” of occupational safety and health problems and would otherwise “help achieve the objectives” of the Act, 29 U.S.C. § 651(b)(12), objectives that included requiring employers to “keep and preserve, and make available to the Secretary” appropriate records for enforcing the Act and “developing information regarding the causes and prevention of occupational accidents and illnesses,” § 657(c)(1); “encouraging employers and employees in their efforts to reduce the number of occupational safety and health hazards at their places of employment,” § 651(b)(1); “stimulat[ing] employers and employees to institute new and to perfect existing programs for providing safe and healthful working conditions,” *id.*; and “providing for research in the field of occupational health,” and a basis for “developing innovative methods, techniques and approaches for dealing with occupational safety and health problems,” § 651(b).

OSHA based the 2016 Rule on extensive findings that the reporting requirements would address all of these methods of promoting safety and health in the workplace. As OSHA described in the preamble, the rule would assist it in its enforcement efforts, by providing the Agency with more specific information about where problems exist and thereby enabling it to target those workplaces where workers are at greatest risk. 81 Fed.Reg. 29629. However, given the agency’s limited enforcement resources, OSHA also saw the 2016 as empowering it to more robustly fulfill the Act’s mandate, by providing information that would aid its non-enforcement, compliance assistance programs; that would incentivize employers and employees to identify and address workplace hazards; and that would provide employers, employees, unions and academicians with data with which to conduct research and “develop innovative methods” for addressing safety and health in the workplace.

For example, with respect to its non-enforcement activities, OSHA concluded that with the detailed information from the Forms 300 and 301, it could “conduct rigorous evaluations of different types of programs, initiatives, and interventions in different industries,” enabling it to identify employers to refer for its on-site consultation program, to identify emerging hazards, and to send “hazard-specific educational materials” or “letters notifying employers that their reported injury/illness rates were higher than the industry-wide rates,” letters that OSHA found effective in spurring employers to improve their rates. 81 Fed.Reg. 29630; *id.* at 29648 (more information for potential employees, customers and the public).

With respect to “stimulating employers” to implement measures to improve conditions in their workplaces, OSHA found, for example, based on research in the field of behavioral economics, that posting the information would encourage employers to take measures to preserve their reputations “as good places to work or do business with,” since job seekers, investors and customers would all have information to enable them to make decisions based on the employers’ illness and injury rates. *Id.* at 29630-31.

And with respect to “providing for research” and spurring innovation in the field of occupational safety and health, OSHA found that the detailed information provided on Forms 300 and 301 would improve research and analysis of injury and illness trends by, for example, enabling researchers to identify previously unrecognized patterns of injuries or illnesses across establishments where workers are exposed to similar hazards, which are masked by the aggregated data on the Form 300A. *Id.* at 29631. OSHA also found that the public availability of these data would enable industries, trade associations, unions and other worker groups to evaluate the effectiveness of privately-initiated injury and illness prevention initiatives that affect groups of establishments. *Id.*

In proposing to eliminate the 2016 Rule’s requirement that employers provide OSHA and electronically post redacted versions of Forms 300 and 301, OSHA asserts that, contrary to its original findings, it has now determined that these data would “add uncertain enforcement benefits.” 83 Fed.Reg. 36496. NABTU strongly disagrees. While summary data from the OSHA 301A Form can be used to generally identify high-risk industry subsectors or regions, they do not provide the details to reveal the underlying conditions that led to the unsafe workplaces. Having access to these details can strengthen effective and objective agency-targeting of its limited enforcement resources by enabling the agency to identify and focus on the most important problem areas.

Moreover, while asserting – wrongly, in our view – that the detailed information will only “uncertainly” bolster its *enforcement* efforts, OSHA ignores its previous, well-supported findings about the panoply of other benefits the data can serve in promoting the purposes of the Act.

NABTU is particularly concerned that rescinding these requirements will eliminate promised advantages to workers and researchers in identifying and addressing workplace hazards. NABTU and its affiliates have active safety and health programs, and are dedicated to working with their signatory employers to improve workplace conditions. The information employers are required to collect – but until now, only disclose in limited circumstances – constitutes an unprecedented source of data that could potentially reveal what is working and not working in America’s workplaces. It would enable unions and employers to see where incidents are occurring in the industry and to track trends and determine where interventions – enforcement or otherwise – are needed.

NABTU and its affiliates also work cooperatively with our signatory contractors to address safety and health in the workplace. Data on the circumstances surrounding illness and injury in similar work environments would permit the parties to identify common problems and co-develop approaches to rectifying them, which could have positive repercussions throughout the industry.

NABTU supports CPWR – The Center for Research and Training, which is dedicated to conducting and promoting research on safety and health in the construction industry. One of CPWR’s signature projects is “research to practice,” taking research about the hazards facing workers in the construction industry and developing practical, evidence-based technologies and work practices to address those hazards. The kind of detailed data contained on Forms 300 and 301 would permit CPWR’s researchers not only to identify the hazards that exist, but potentially to track the effectiveness of interventions put into practice, work that could again have huge implications for advancing safety and health throughout the construction industry.

CPWR has also done extensive work around how to improve the safety culture on construction worksites. Having access to comprehensive injury and illness experiences among all large contractors would give researchers data to validate what they have identified as “leading indicators” of a good safety culture, which are in turn known by industry leaders to contribute to lower injury/illness rates, higher productivity/quality and better places to work. This last point is particularly relevant, as unemployment rates in construction are at historically low levels and the ability to attract and retain the best workers is of paramount importance to companies. Large establishments in the construction industry often set the bar, as well, on how to implement safety and health systems and practices that are good for workers and the bottom line. Access to

detailed data would allow for all affected stakeholders to spot best practices based on real evidence.

II. The Information the 2016 Rule Requires Employers to Provide to OSHA Does Not Threaten Employee Privacy

In addition to questioning how useful Forms 300 and 301 would be in assisting its enforcement activities, OSHA has justified its proposal to rescind parts of the 2016 Rule “to protect sensitive worker information from potential disclosure under the Freedom of Information Act (FOIA).” 83 Fed.Reg. 36494. The agency notes that although it believes it has strong arguments that the forms would be protected from disclosure by FOIA’s exceptions, it nonetheless concludes that the “risk to worker privacy is unacceptable.” *Id.* at 36498.

NABTU is a strong advocate for worker privacy. It consistently resists efforts by construction industry employers to impose wide-ranging and discriminating medical prequalification programs, in order to protect employees from disclosure of medical conditions that are unrelated to their ability to perform their work. And based largely on the testimony of members of its affiliated unions during the hearings on OSHA’s proposed silica standard, NABTU vigorously urged OSHA to adopt the important anti-retaliation provisions in the 2016 Rule, in recognition of the risks workers face when they report illness or injury on the job. We therefore take very seriously the privacy issues OSHA raised, and addressed, in promulgating the 2016 Rule, and which the agency is raising again to justify rolling back the 2016 Rule. We believe, however, that the manner in which the 2016 Rule tailors the information employers must disclose and OSHA may post from Forms 300 and 301 adequately protects workers, minimizes any risk that individual employees could be identified from the publicly-posted material, and makes it highly unlikely that a requester could successfully compel the disclosure of information OSHA neglected to scrub from the forms.

The closest and most useful analogy to the requirements in the 2016 Rule are the records employers must provide to the Mine Safety and Health Administration. Under the Mine Act, any records MSHA requires employers to file with that agency “may be published from time to time, may be released to any interested person, and shall be made available for public inspection.” 30 U.S.C. § 813(h). Our research has failed to find any FOIA cases in which MSHA has been compelled to provide personally identifiable information, and we have been unable to find any indication that these requirements have otherwise created privacy problems for covered employees.

State public health agencies also routinely collect injury, illness, health and medical information. They have implemented strict procedures for protecting PII while also using the data for prevention purposes. Similarly, CPWR, along with many other researchers, has an agreement with the Bureau of Labor Statistics (BLS) to control access to and reporting of worker fatality data collected by the Census of Fatal Occupational Injuries program. CPWR researchers and others who use data do not need or seek PII for the data to be useful, and this system has assured the confidentiality of PII for decades. OSHA accordingly does not have to start from scratch in devising ways to screen the records submitted to it and scrub any PII, to ensure it is neither inadvertently released nor subject to compelled disclosure.

III. OSHA Should Require Employers to Provide their Employer Identification Number

The one revision to the 2016 Rule OSHA is proposing and NABTU supports is the requirement that employers provide their employer identification number (EIN) with their annual injury data. Linking these reports to a consistent EIN, rather than company names that can be similar across different businesses, would reduce or eliminate duplicative and inaccurate reporting of findings and improve the potential for OSHA to target enforcement and compliance

assistance tools and resources to the companies that need them. It would also create new opportunities to enable and enhance linkages to other data sources, such as the Bureau of Labor Statistics (BLS) Survey of Occupational Injury and Illness (SOII), which already use the EIN to identify workplaces.

IV. OSHA Should Not Otherwise Amend the 2016 Rule

The 2016 Rule promised to greatly enhance both the ability of OSHA to fulfill its statutory mandate and the ability of employers, unions, employees and academicians to better understand and address workplace safety and health hazards, by providing access to a wealth of previously unavailable data. In promulgating the 2016 Rule, OSHA realized that employers faced with making their safety records public might pressure employees to refrain from reporting their illness and injuries. To ensure the accuracy of reporting, and to protect workers who came forward, OSHA included important anti-retaliation provisions in the final Rule. In this rulemaking, OSHA is proposing to minimize the amount of information employers will be required to disclose to the agency and the public. The fact remains, however, that even if OSHA implements its proposed revisions – which, as demonstrated, it should not – employers will still be required to make public their safety and health records, albeit in summary form. Without the important safeguards included in the 2016 Rule, employees will therefore still face the prospect of being discouraged from reporting. NABTU therefore strongly urges OSHA to fully maintain §§ 1904.35 and 1904.26 of the 2016 Rule.

Conclusion

In promulgating the 2016 Rule, OSHA concluded that its reporting and disclosure requirements “serve[d] a substantial government interest in health and safety of workers, ha[ve] a strong statutory basis, and rest[] on reasonable, objective criteria for determining which

employers must report information to OSHA.” 81 Fed.Reg. 29626. The same remain true today. The information will assist OSHA in carrying out its enforcement and non-enforcement activities, will incentivize employers to up their game, and will provide employers, unions, workers, advocates and academicians with a wealth of information they can employ to understand and address workplace hazards – all with little threat to personal privacy. NABTU therefore urges OSHA to abandon its proposal to drop the requirements that employers report their 300 and 301 Forms, and simply to amend the rule to add the requirement that employers include their EIN on their forms.

Pacific Maritime Association

Michael Hall,

Received 5-31-2019



Pacific Maritime Association
Headquarters

May 31, 2019

Mr. Willie Nguyen
Staff Counsel
Cal/OSHA Legal Unit
Department of Industrial Relations
1515 Clay Street, Suite 1901
Oakland, CA 94612

Submitted Electronically via Email: *ElectronicReporting@dir.ca.gov*

Re: Request for Comments Following Advisory Committee: *Electronic Submission of Workplace Injuries and Illness Records (General Industry Safety Orders, Chapter 7, Subchapter 1, Section 14300)*.

Dear Mr. Nguyen:

The Pacific Maritime Association ("PMA") appreciates the opportunity to comment on Cal/OSHA's request for information following the advisory committee meeting on May 9 involving the electronic submission of occupational injuries and illness.

PMA is a nonprofit mutual benefit corporation that serves as the multi-employer collective bargaining and centralized payroll representative for approximately 70 member companies. PMA's members include the stevedoring companies, marine terminal operators, and maintenance contractors who employ longshore and other dockworkers at marine cargo handling facilities at all 29 trading ports in California, Oregon, and Washington. Those members constitute virtually the entire marine cargo-handling industry on the U.S. West Coast.

PMA respectfully submits the following comments.

Adoption of OSHA's May 12, 2016, "*Improve Tracking of Workplace Injuries and Illnesses*" Rule Will Not Provide Meaningful Information to Cal/OSHA, Employees, or the Public

Injury and illness data, absent context or analysis, will neither provide interested parties with meaningful information nor enable more effective targeting or enforcement. Moreover, providing raw data to employees and the public who do not necessarily know how to properly interpret it and who do not necessarily have the underlying facts required to assess and respond, will only lead to confusion and inaccurate assumptions.

Even for those employers whose employees perform similar jobs under similar conditions, it is impossible to meaningfully compare ports based on injury and illness data alone. Rather, several fundamental differences make such a comparison useless. For instance, collectively bargained arrangements at several

ports in California do not allow employees with minor or less serious injuries to engage in light-duty work or to transfer to unassigned jobs. As a result, employees will have no choice but to take days off and these employers will have artificially increased lost time injury frequency rates compared to employers at other ports that do not have similar limitations.

For instance, consider a situation in which a longshore worker suffers a minor injury. After seeing a doctor, the longshore worker is told not to lift more than 20 pounds for the next seven days, and is given a note explaining this restriction. If that longshore worker happens to work at the port in Los Angeles/Long Beach, the following day he or she may simply show the note to the hall dispatcher, who will assign a job that does not require lifting over that weight. Conversely, if that worker is employed at the port in Oakland, upon showing the dispatcher the same doctor's slip, that worker is likely to be denied work that day since under the local collective agreement, he or she cannot be reassigned to another position without the approval of a joint-labor-management board that may take up to a week to consider the transfer. As a result, for the same minor injury, the employer at one port will never hear that anything has happened while another, through no fault of their own, will be required to record and report a serious injury requiring missed work.

Such artificial distinctions between employers will be wholly unrelated to the seriousness of the injury that will be recorded or the overall safety of the employer's workplace.

Adoption of the OSHA 2016 Final Rule Will Burden the Maritime Industry

The maritime industry operates through a unique mix of employees who work consistently for a single employer ("steadies") and employees that are hired through dispatch halls and therefore work for a number of employers over a short period of time. As a result of this system, employers who employ steadies will be disproportionately negatively affected under this proposed regulation. This is because, while an injury to a steady would have to be reported and published, an injury to an employee working out of a dispatch hall may result in his self-selection to a less physically demanding job or to declining work altogether until he feels better. As a result, employers who rely on staffing through a dispatch hall will experience lower or less serious reportable injury rates. This will lead those viewing the information that would be published under this proposed regulation to draw inappropriate comparisons, and will unfairly harm the reputations of certain businesses.

Cal/OSHA adoption of the 2016 OSHA regulation will also cause the maritime industry as a whole to be unfairly tarnished because a single injury may well be recorded and reported by numerous employers. Owing to the maritime industry's reliance on dispatch halls, employees will often work for two or more employers during the same week, and even on the same day. Accordingly, when employees suffer workplace injuries, they will report these injuries to each of their employers. As a result, the total number of injuries reported within the maritime industry will be higher per hour worked when compared with other industries.

Another routine occurrence arising out of the use of a dispatch hall versus steadies involves an employee who aggravates a pre-existing injury or illness. Under a non-dispatch hall employment relationship, such an occurrence may be recorded as a single injury with an update on the OSHA 300 log. However, in the maritime industry, an employee who has worked for numerous employers through a dispatch hall would report the initial injury to one employer and the re-aggravation to another. Such double counting again would distort the accuracy and usefulness of this information and the proposed database.

Further, owing to contractual obligations and developing regional working rules, the standards and conditions at different ports change with a degree of frequency. Accordingly, without the proper context—something that OSHA did not adopt in their 2016 final rule—it will be impossible for the public to even compare the injury rates of a single port. Without an awareness and understanding of these changing variables, information posted on a database regarding the maritime industry will be misleading and meaningless.

PMA's Members May Be Subjected to Duplicate Reporting Requirements

Many longshore workers work both in marine terminals and on seagoing vessels, moving back and forth between these positions throughout their shift. During these transitions, the employee moves seamlessly between OSHA's jurisdiction and that of Cal/OSHA landside. For the sake of simplicity, however, injuries that occur under both federal and state occupational safety and health plans are maintained on a single OSHA 300 log. California marine cargo handling employers has provided Cal/OSHA with both federal and state injury data on their 300 log since the recordkeeping inception. Faced with the prospect of injuries being published on a proposed database, employers may have to engage in the onerous exercise of distinguishing between injuries that occurred under federal OSHA jurisdiction and those that did not. Further, they may also have to submit this information to OSHA electronically in one form while simultaneously maintaining information in another for Cal/OSHA regulators.

How Will Employers Will Be Able to Update Injury and Illness Information

Injury and illness data submission, and any possible electronic database that would be created should be designed so that information may be removed or edited.

It is common for an employer to record an employee's complaint at the time it is reported, prior to performing an evaluation of whether an injury has actually occurred or whether it is indeed workplace related. However, following an examination by a physician or consideration of the recordkeeping factors in CA T8 GISO §14300, recorded injuries regularly have to be removed or edited. The information submitted to OSHA and/or Cal/OSHA, and possible inclusion on a database will be no different.

Accordingly, if Cal/OSHA proceeds with adoption of the 2016 OSHA final rule, with the subsequent creation of an electronic database, PMA believes that it is imperative that this system be designed to allow for amendments.

Conclusion

As this comment illustrates, the adoption of OSHA's May 12, 2016, "*Improve Tracking of Workplace Injuries and Illnesses*" final rule will have a significant, disproportionate, and burdensome impact on PMA, its members, and the California maritime industry. For these reasons, PMA recommends to not adopt the 2016 final rule into California regulations.

Sincerely,



Michael Hall, CSP
Asst. Coast Director, Accident Prevention
Pacific Maritime Association

Public Citizen
Shanna Devine,

Received 4-30-2019



1600 20th Street, NW • Washington, D.C. 20009 • 202/588-1000 • www.citizen.org

April 30, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee
Elihu Harris State Building
1515 Clay Street, Suite 1304
Oakland, CA

[comments filed electronically via ElectronicReporting@dir.ca.gov]

Dear Cal/OSHA Advisory Committee:

Thank you for the opportunity to submit written comments for Cal/OSHA's Advisory Committee Meeting, "Electronic Submission of Workplace Injury and Illness Records", to be held on May 9, 2019. According to the Cal/OSHA advisory meeting webpage, the meeting will be held to evaluate how to implement the changes necessary to protect the goals of federal OSHA's Improve Tracking of Workplace Injuries and Illnesses rule, as issued May 12, 2016.

Please see enclosed for the meeting record Public Citizen's written public comments in response to federal OSHA's proposed rule, "Tracking of Workplace Injuries and Illnesses" RIN: 1218-AD17, which was finalized on January 25, 2019, and significantly weakens OSHA's regulations regarding the reporting of occupational injuries and illnesses. Public Citizen is a national, nonprofit public interest organization with 77,215 members and supporters in California that advocates for public health and safety interests before Congress, the executive branch agencies and the courts. As explained more fully in the enclosed comments, OSHA's rescission of the requirement that covered establishments submit electronically certain data from OSHA Forms 300 and 301 eliminates an important source of timely workplace injury and illness information that could have been used to identify and remediate hazards without risk to worker privacy.

Sincerely,

Shanna Devine
Worker Health and Safety Advocate

Enclosure: Written Comments for DOL/OSHA Proposed Rule RIN: 1218-AD17



1600 20th Street, NW • Washington, D.C. 20009 • 202/588-1000 • www.citizen.org

September 28, 2018

Loren Sweatt
Acting Assistant Secretary of Labor for Occupational Safety and Health
Occupational Safety and Health Administration
U.S. Department of Labor
200 Constitution Ave. NW
Washington, D.C. 20210

Re: RIN: 1218-AD17; Tracking of Workplace Injuries and Illnesses (Docket No. OSHA-2013-0023)

[comments filed electronically at regulations.gov]

Dear Ms. Sweatt:

Public Citizen strongly urges the Occupational Safety and Health Administration (OSHA) not to finalize the proposed rule, “Tracking of Workplace Injuries and Illnesses,” RIN: 1218-AD17, (“proposal”), which would weaken OSHA’s regulations regarding the reporting of occupational injuries and illnesses. Public Citizen is a national, nonprofit public interest organization with more than 500,000 members and supporters that advocates for public health and safety interests before Congress, the executive branch agencies and the courts. We thank you for the opportunity to comment on this proposal.

General Comments

This proposal will lead to less accountability for dangerous workplaces and riskier conditions for workers because it would eliminate the requirement for certain larger employers to electronically submit detailed injury and illness information to OSHA under the “Improve Tracking of Workplace Injuries and Illnesses” rule (“rule”) that the agency finalized in May 2016. Public Citizen submitted comments to OSHA in support of the rule¹ that this proposal is seeking to partially repeal. Specifically, the proposal would rescind the requirements to electronically

¹ Letter from Keith Wrightson, Worker Health and Safety Advocate, Public Citizen’s Congress Watch Department, to David Michaels, Assistant Secretary of Labor, Occupational Health and Safety Administration, U.S. Department of Labor (March 10, 2014), <https://bit.ly/2NwQKV3>.

submit information from OSHA Form 300 (Log of Work-Related Injuries and Illnesses) and OSHA Form 301 (Injury and Illness Incident Report) for establishments with 250 or more employees that are currently required to maintain injury and illness records.² At this time, OSHA has announced that it is not accepting or requiring submission of those forms.³

The following is OSHA's stated rationale for the proposal:

OSHA has preliminarily determined that the risk of disclosure of this information, the costs to OSHA of collecting and using the information, and the reported burden on employers are unjustified given the uncertain benefits of collecting the information ... OSHA seeks comment on this proposal, particularly on its impact on worker privacy, including the risks posed by exposing workers' sensitive information to possible FOIA [Freedom of Information Act] disclosure.⁴

OSHA's pretext for rolling back these common-sense workplace reporting measures cannot withstand scrutiny, and it is diametrically opposed to OSHA's original justification for the rule – which includes increased prevention of workplace injuries and illnesses and promotion of complete and accurate reporting of work-related injuries and illnesses. The utility of the injury and illness data for workplace health and safety and the longstanding practices by the Department of Labor (DOL) to protect personally identifiable information (PII) demonstrate that the benefits of the electronic reporting requirements that OSHA is proposing to withdraw far outweigh their risks.⁵

While we oppose ending the Form 300 and Form 301 electronic reporting requirements, Public Citizen does support the proposal to add a requirement that all employers report their Employer Identification Number along with their injury and illness data. This will lead to greater efficiencies for government agencies and employers. Further, Public Citizen is pleased that the proposal does not seek to remove the requirement for certain establishments to electronically submit information from their Form 300A summaries, nor does it alter the anti-retaliation portions of the rule.

² Tracking of Workplace Injuries and Illnesses, 83 Fed. Reg. 36494 (July 30, 2018) (to be cited at 29 C.F.R. 1904) <https://bit.ly/2xIEx6C>.

³ Press Release, Occupational Health and Safety Administration, *The Department of Labor Proposes Rule to Better Protect Personally Identifiable Information* (July 27, 2018), <https://bit.ly/2LknNGG>.

⁴ Tracking of Workplace Injuries and Illnesses, 83 Fed. Reg. 36494 (July 30, 2018) (to be cited at 29 C.F.R. 1904), <https://bit.ly/2xIEx6C>.

⁵ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29623 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

Utility of Injury and Illness Data

The rule was promulgated to provide better compliance with OSHA's statutory mandate "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources," which is achieved in part by "providing for appropriate reporting procedures ... [that] will help achieve the objectives of the Act and accurately describe the nature of the occupational safety and health problem."⁶ Once fully implemented, the rule will ensure that OSHA electronically collects and publishes detailed data on worker injuries and illnesses in real time. Similar to the Mine Safety and Health Administration's (MSHA's) electronic reporting requirements, more timely and comprehensive data will allow OSHA to quickly pinpoint workplace hazards, establish its priorities, and target its enforcement efforts. Further, in the rule, OSHA recognized that collection and publication of the data will help OSHA encourage employers to prevent worker injuries and illnesses. In addition, in the rule, OSHA stated its intention to publicly post the collected data, and explained that it would do so, among other reasons, to improve the ability of public health organizations like Public Citizen Health Research Group to analyze the causes of work-related injury and disease in the U.S. and to develop solutions to reduce or eliminate such injury and disease. Given the collective benefits of the three forms, in the rule, OSHA rejected proposals not to collect the more detailed Forms 300 and 301. Moreover, it found that the rule's benefits outweighed any costs, and refuted claims that the rule would create a burden on establishments.

OSHA only has the capacity to inspect a worksite once every 158 years.⁷ OSHA had a meager annual budget of \$543 million in FY2017, yet it covers most private sector employers and employees throughout the country.⁸ The federal and state OSHAs have a combined 2,100 inspectors to oversee the health and safety of 130 million workers, or approximately one compliance officer for every 59,000 workers.⁹ The rule is an indispensable tool to help OSHA fulfill its worker protection mandate and focus its limited resources on the more egregious violators, while encouraging preventative measures by employers. Given that OSHA can never inspect establishments regularly, the agency considered collection and public disclosure of all of the data central to its goals of greater workplace safety and better recordkeeping. Only through collection and public disclosure of all three forms can OSHA achieve these goals without a massively increased budget for inspections.

Prior to the rule, OSHA only obtained the injury and illness data through infrequent onsite inspections, or through the now-defunct OSHA Data Initiative (ODI). Through the ODI, OSHA collected injury and illness data from approximately 80,000 larger establishments in selected

⁶ *Id.* at 29626.

⁷ AFL-CIO, DEATH ON THE JOB: THE TOLL OF NEGLECT 3 (April 2018), <https://bit.ly/2jf6DOW>.

⁸ *Proposed FY 2018 Budget: No Major Changes for OSHA, MSHA; CSB Still Facing Elimination*, SAFETY AND HEALTH (May 24, 2017), <https://bit.ly/2MsrnOh>.

⁹ *Commonly Used Statistics*, U.S. DEPARTMENT OF LABOR (viewed on September 5, 2018), <https://bit.ly/1rTLTGX>.

industries each year. However, the ODI only collected the 300A summary Form, which “did not enable OSHA to identify specific hazards or problems in establishments included in the ODI” according to the agency.¹⁰ The Form 300A summaries, while important, do not begin to provide the granular level of injury and illness data provided in the Form 300 and Form 301 that can lead to more significant findings about workplace hazards for all stakeholders.

Before OSHA promulgated the rule, the public could not access the data in the OSHA forms in a systematic way, although the forms could be obtained on request by workers at a particular establishment or through FOIA with regard to forms that OSHA had collected on an ad hoc basis. OSHA recognized in the rule that the data obtained through the rule will assist “employers, employees, employee representatives, the government, and researchers ... to identify and mitigate workplace hazards and thereby prevent worker injuries and illnesses,” according to OSHA.¹¹ Organizations and researchers plan to use the data made available through the rule to assist the public or their memberships in a variety of ways including to: conduct research on issues of workplace health and safety; assist in the development of training and education programs, and effectively track, investigate, and prevent work-related injury and disease in the United States.¹²

Given the clear benefits of the injury and illness data provided by rule, the “reported burden on establishments” that the agency is now citing to defend its proposal is negligible and beside the point. OSHA’s primary responsibility is to uphold worker health and safety – not reduce industry burden. Even so, according to the rule, the electronic submission requirements do not add to or change an employer’s obligation to complete and retain injury and illness records under longstanding OSHA recordkeeping regulations, nor does it change the recording criteria or definitions for the records.¹³ The rule merely requires electronic submission of existing data to OSHA. In turn, the rule will greatly increase OSHA’s access to the establishment-specific information employers already are required to record, which will help the agency use its enforcement and compliance assistance resources more effectively by “enabling OSHA to identify the workplaces where workers are at greatest risk.”¹⁴ OSHA estimated that the rule would have an annual cost of \$214 per affected establishment with 250 or more employees.¹⁵

¹⁰ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29628 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

¹¹ *Id.* at 29629.

¹² *Public Citizen Health Research Group, et. al., v. Alexander Acosta, Secretary, U.S. Department of Labor, et al.*, No. 18-cv-1729 (D.C. Cir. July 25, 2018), <https://bit.ly/2KqjokQ>; Declaration of David Michaels, PHD, MPM, *Public Citizen Foundation v. U.S. Department of Labor, et al.*, No. 18-cv-117-EGS (D.C. Cir. June 29, 2018); Declaration of Michael A. Carome, MD, *Public Citizen Health Research Group, et. al., v. Alexander Acosta, Secretary, U.S. Department of Labor, et al.*, No. 18-cv-1729-TJK (D.C. Cir. September 7, 2018); Declaration of Georges C. Benjamin, *Public Citizen Health Research Group, et. al., v. Alexander Acosta, Secretary, U.S. Department of Labor, et al.*, No. 18-cv-1729-TJK (D.C. Cir. September 7, 2018); Declaration of Robert Harrison, MD, MPH, *Public Citizen Health Research Group, et. al., v. Alexander Acosta, Secretary, U.S. Department of Labor, et al.*, No. 18-cv-1729-TJK (D.C. Cir. September 7, 2018).

¹³ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29625 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

¹⁴ *Id.* at 29668.

¹⁵ *Id.* at 29677.

That is a nominal cost, especially when compared with the benefits to fulfill the agency's mission. "The Agency believes that the annual benefits, while unquantified, exceed the annual costs," according to the preamble to the final rule.

OSHA's Original Support for the Rule and Existing Privacy Safeguards

OSHA went to great lengths to assuage any initial concerns about worker privacy when it finalized the rule in 2016. Specifically, the rule does not require employers to report PII, and the reporting forms exclude information fields that require the collection of PII.¹⁶ Further, OSHA already has a practice of disclosing the collected portions of the Forms 300 and 301 in response to FOIA requests. Similarly, MSHA has practices in place to protect PII associated with its injury and illness reporting requirements. In addition, the proposal's assertion that there is a risk that federal courts will erroneously order the release of information subject to withholding under FOIA is both speculative and unfounded. Lastly, existing regulations require OSHA to provide employees, former employees, and their representatives with copies of the collected portions of Forms 300 and 301 due to the public interest benefits of the information.

In the preamble to the final rule, the agency stated, "OSHA does not intend to post any information on the Web site that could be used to identify individual employees."¹⁷ It further stated:

While OSHA intends to make the information ... generally available, the Agency also wishes to emphasize that it does not intend to release personally identifiable information included on the forms ... OSHA plans to review the information submitted by employers for personally-identifiable information. As part of this review, the Agency will use software that will search for and de-identify personally identifiable information before OSHA posts the data.¹⁸

That approach is consistent with longstanding practices used to protect PII within the context of FOIA and at the DOL's MSHA.

In the preamble to the final rule, OSHA stated that it "wishes to emphasize that it will post injury

¹⁶ The fields that employers are required to submit to OSHA from the Form 300 log of work-related injuries include: case number; job title; where the event occurred; a description of the injury; a checkbox choice for the outcome (death, days away from work, or remained at work); the number of days away from work or on restricted duty; and a checkbox choice for the type of illness (injury, skin disorder, respiratory condition, poisoning, hearing loss, all other illnesses). See OSHA, Injury & Illness Recordkeeping Forms - 300, 300A, 301, <https://www.osha.gov/recordkeeping/RKforms.html>. The fields that OSHA will collect from the OSHA Form 301 (fields 10 through 18) ask employers to provide certain general information about each case: case number; date of event; time employee began work; time of event; what employee was doing just before incident; what happened; what was the injury or illness; what object or substance directly harmed the employee; and if the employee died, when did death occur. See *id.* None of these fields identify individual employees.

¹⁷ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29625 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

¹⁸ *Id.* at 29632.

and illness recordkeeping information collected by this final rule consistent with FOIA.”¹⁹ Prior to the promulgation of the rule, OSHA regularly disclosed the same portions of the OSHA Forms 300 and 301 that it had in its possession, when that information was sought through FOIA. Under OSHA’s current FOIA practice, it applies FOIA Exemption 7(c) (which provides protections for personal information in law enforcement records) and Exemption 6 (which protects information about individuals in personnel, medical, and similar records) to protect PII from disclosure. As explained in the preamble to the agency’s final rule, “OSHA generally uses FOIA Exemption 7(c) to withhold from disclosure any personally identifiable information included anywhere on the three OSHA recordkeeping forms.”²⁰ For instance, with respect to the OSHA 300 Logs, the agency applies Exemption 7(c) of FOIA to redact columns of the 300 Log that could be used to identify the injured or ill employee, such as an employee’s job title.²¹ For the OSHA 301 Incident Reports, OSHA uses FOIA exemptions to withhold the fields that include personal information about the injured or ill employee and the health care professional.²²

Consistent with FOIA, OSHA already collects and publicly posts similar establishment-specific information with respect to severe injuries and fatalities, including among other things, narrative details about each incident. Moreover, OSHA is by no means the first federal agency to post establishment-specific worker injury and illness data. In the preamble to the final rule, OSHA stated, “[MSHA] publishes coded information about each accident, injury or illness reported to MSHA.”²³ For over a decade MSHA has been electronically collecting detailed employer records of almost every miner injury or illness, under its Mine Data Retrieval System (MDRS).²⁴ The MDRS collects current and historical data from various MSHA databases and provides “mine-by-mine” incident data for all mines and contractors in the U.S., Puerto Rico, and the Virgin Islands.²⁵ When a mine-related accident, injury, or illness occurs, mine operators must report the incident through Form 7000-1, Mine Accident, Injury, and Illness Report, which can be submitted to MSHA electronically.²⁶ MSHA uses the MSHA Standardized Information System to gather and manage the PII data collected as part of the miner accident and injury reporting, among other areas. Among the information collected, MSHA obtains the accident date, occupation, and a written description of the incident.²⁷ MSHA uses the data to identify the patterns and common causes of injuries, illnesses, and fatalities among miners and to inform enforcement efforts and compliance with health and safety standards. MSHA’s website boasts that its “online tools will allow anyone to monitor a mine’s compliance with these critical standards.”²⁸

¹⁹ *Id.* at 29659.

²⁰ *Id.* at 29658.

²¹ *Id.*

²² *Id.*

²³ *Id.* at 29656.

²⁴ *Mine Data Retrieval System*, U.S. DEPARTMENT OF LABOR (viewed on September 7, 2018), <https://bit.ly/2Nzwa6p>.

²⁵ *Data Sources & Calculators*, U.S. DEPARTMENT OF LABOR (viewed on September 7, 2018), <https://bit.ly/2x4rzi5>.

²⁶ *Mine Accident, Injury and Illness Report*, U.S. DEPARTMENT OF LABOR (viewed on September 10, 2018), <https://bit.ly/2N6NSib>.

²⁷ *Privacy Impact Assessment Questionnaire*, U.S. DEPARTMENT OF LABOR (viewed on September 10, 2018), <https://bit.ly/2QnplxJ>.

²⁸ *Data Sources & Calculators*, U.S. DEPARTMENT OF LABOR (viewed on September 7, 2018), <https://bit.ly/2x4rzi5>.

In addition, the Federal Railroad Administration and the Federal Aviation Administration post accidents reports, which in some cases include PII about the impacted pedestrian or worker.²⁹ Conversely, as part of the rule OSHA took extensive measures to ensure worker privacy when making injury and illness data publically available.

The proposal asserted that Forms 300, 300A, and 301 “could be subject to disclosure under FOIA if a court determines that no exemptions to FOIA apply ... because there remains a meaningful risk that a court may ultimately disagree and require disclosure.”³⁰ That hypothetical scenario does not provide credible grounds for the proposal. No records will be publicly disclosed that contravene FOIA’s exemptions. As stated in the rule, “[w]ith respect to the posting ... of information from the 300 Log and 301 Incident Report ... such posting will not include personally-identifiable information. Again, the goal of the final rule is to disseminate injury and illness data, not to disseminate personal information about employers or employees.”³¹ If OSHA is correct that the information is exempt, it will not be released. If OSHA is not correct, by definition the release will not constitute a clearly unwarranted or unwarranted invasion of personal privacy, as required to fall under FOIA Exemptions 6 and 7(C).

Notwithstanding the existing safeguards to protect worker privacy information in the rule, OSHA has already vetted the possibility of certain information being released in other contexts, and has concluded that the benefits for workers and the public interest outweighed any potential privacy interest. Since 2001, OSHA regulations have required that employers provide copies of the same parts of the OSHA Form 300 and the Form 301 to any current employees, former employees, and employee representatives. The regulations provide no limitation on their ability to disseminate those records publicly.³² “OSHA authorized this right of access after balancing the privacy rights of individuals with the public interest for disclosure.”³³ Further, OSHA concluded that disclosure of the information “benefits these employees generally by increasing their awareness and understanding of the safety and health hazards in the workplace.”³⁴

Conclusions

OSHA’s basis for the proposed rollbacks of the requirements for the electronic reporting of occupational injuries and illnesses to the agency is indefensible. The utility of injury and illness

²⁹ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29623 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

³⁰ Tracking of Workplace Injuries and Illnesses, 83 Fed. Reg. 36497 (July 30, 2018) (to be cited at 29 C.F.R. 1904) <https://bit.ly/2LXRm4Y>.

³¹ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29663 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

³² See 29 C.F.R. § 1904.35. <https://bit.ly/2R2aVsK>.

³³ Improve Tracking of Workplace Injuries and Illnesses, 81 Fed. Reg. 29661 (May 12, 2016) (to be cited at 29 C.F.R. 1902, 29 C.F.R. 1904), <https://bit.ly/23K3a95>.

³⁴ *Id.*

data for workplace health and safety, and established practices by the DOL to protect worker privacy information, demonstrate the benefits of the electronic reporting requirements far outweigh their risks. If they are withdrawn, OSHA and a vast expanse of stakeholders will lose access to an important source of timely workplace injury and illness information. Public Citizen strongly urges you not to finalize the proposal to amend OSHA's requirements for the electronic reporting of occupational injuries and illnesses to the agency.

Thank you for the opportunity to comment on this important worker health and safety issue. For questions, please contact Shanna Devine at sdevine@citizen.org or 202.454.5168.

Sincerely,

Public Citizen

SEIU 2015

Sherry Avella,

Received 5-31-2019



California's Long Term Care Local®

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building
1515 Clay Street, Suite 1901
Oakland, CA 94612

[Comments filed electronically via ElectronicReporting@dir.ca.gov]

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Mr. Shor and Cal/OSHA:

The Service Employees International Union, Local 2015 (SEIU Local 2015) submits these comments to assist the Cal/OSHA Advisory Committee meeting in evaluating how to implement the changes necessary to protect the goals of the Improve Tracking of Workplace Injuries and Illnesses Standard.

We support the adoption and implementation of the requirement that employers electronically submit information from Cal/OSHA Form 300 (Log of Work-Related Injuries and Illnesses) and Form 301 (Injury and Illness Incident Report) for establishments with 250 or more employees. This action is needed to restore recently rescinded provisions of the federal OSHA recordkeeping regulations. In addition, we believe the size threshold should be reduced to include to worksites with 100 or more employees per worksite or employers who employ more than 500 employees statewide. We further support the agency making this information available to the public. California must adopt these provisions, because they are necessary to inform policy and action that will serve OSHA's mission to "assure safe and healthful working conditions for working men and women".

SEIU Local 2015 represents more than 380,000 long term care workers across California. Our members work in assisted living facilities, private agencies, institute for mental diseases (IMDs), In Home Supportive Services, and skilled nursing facilities.

According to the National Institute of Occupational Safety and Health, healthcare workers have the highest incident of nonfatal occupational illness and injury. Tracking these injuries and their causes is difficult because documents must be requested from each individual facility, employers do not provide documents and there does not appear to be a meaningful penalty for failing to provide OSHA logs. Logs are incomplete and illegible. Employers create their own forms, so reports are not uniform. Information in the summary OSHA log is insufficient to understand the causes of injuries and illnesses in a worksite.

In addition, employers improperly share confidential information by mishandling paper OSHA logs.

Implementing the 2016 OSHA rule would protect worker privacy because confidential information can be automatically filtered from electronic reports.



California's Long Term Care Local®

OSHA would benefit because they can quickly collect sufficient amounts of data to target their response to hazardous worksites.

In Unity,

Sherry Avella

Research Analyst

SEIU 2015

2910 Beverly Blvd., Los Angeles, CA 90057

Teamsters

Ralph Ortiz,

Received 5-30-2019

May 30th, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building
1515 Clay Street, Suite 1901
Oakland, CA 94612

[Comments filed electronically via ElectronicReporting@dir.ca.gov]
Comments from Ralph Ortiz; Teamsters SFO 856/986 Safety Chairman

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Cal/OSHA Advisory Committee,

How does the Union use the logs?

We compare the employer's internal occupational injury & illness reporting database to the OSHA 300 log which the employer submits to OSHA. The Union Safety Committee reviews these to determine if there are any discrepancies between the internal reporting database and the OSHA logs and to check if there were any injuries and illness that were not recorded. By having access to the OSHA logs, it helps the Union to determine if there is any under or misreporting of injury and illness in the workplace.

Having access to the logs provides the Union with the opportunity to speak with a worker (our member) who reported an injury or illness in the workplace and to find out what safety concerns and hazards the worker encountered and what fixes could be taken to prevent the injury or illness. Once we have that information, it is shared with the Management team to address the concerns of the worker and get the hazards fixed.

It also helps the Union to identify emerging trends or serious incidents across multiple departments in the workplace and gives the Union the opportunity to respond and investigate incidents before they continue. Without access to the logs, the Union and workers would have a difficult time in getting the employer to address hazards which lead to workplace injuries and illnesses.

Employee apprehension on reporting injury and illness, specifically new hires

The Union meets with new hires and has an orientation with them. As part of the orientation, the Union briefs the new hires on the importance of reporting any workplace injury and illness to Management. Even though these new hire employees are on probation and not covered by Union protection until the end of their probation period, we inform the employer that retaliation against a worker who reports an injury or illness is a potential violation of the Fairfax letter.

We also brief the new hires that if they are concerned about reporting a workplace hazard or unsafe condition due to fear of retaliation, they can call the Union and we will not reveal their name to Management.

There have been instances in which probationary employees expressed concerns about reporting an injury or illness to the employer and worried that if they did report it, they may not pass probation. Often this was due to the worker not being informed of the protections afforded to them.

If a new hire (probationary employee) wanted to review the employer injury and illness data/report but were afraid to request it from Management due to concerns of retaliation or harassment, the Union would make a request on behalf of the worker and privately share the information with the worker.

In the past, some employees (non-probationary) who reported an injury or illness were given a written notice of concern. When the Union was made aware of this practice from the employee, we immediately notified the employer that this action was potential violation of the Fairfax letter. The Employer has stopped the practice of issuing the notice of concern.

Access to the OSHA 300 logs.

Per our Collective Bargaining Agreement (CBA), the employer shall provide the Union with a copy of the OSHA 300 logs for review. Some Union Safety Representatives also have access to the employers online electronic internal injury and illness reporting database. Workers are not given access to that system.

Workers are also not given access the to employers OSHA 300 log electronic database.

Another case on the importance/value of access to an employer's OSHA logs is when an entity such as an Airport who is in the process of selecting a service provider/company to be a tenant at that Airport, having access to that potential tenant/service providers OSHA 300 logs would allow the Airport to see the health and safety record.

Employer sharing of data and privacy concern

At the Joint Union/Management Safety Committee meeting, injury and illness data from the employer's internal database is shared and reviewed. Serious injuries and illness and trends of similar type or multiple occurrences are discussed and recommendations are made to prevent them from reoccurring.

The employer's practice is to provide injury and illness information and distribute it monthly throughout the organization to be shared with employees at the various department monthly safety meetings. Names or identifiers of injured or ill workers are not listed or shown on these injury & illness reports, nor is the gender of the worker listed.

Information on the reports include; Injury date, summary of the incident/injury, type of injury/incident, root cause and corrective action taken. The employer has this information online via electronic format. Not all employees have access to the electronic database.

To my knowledge, our Union members have never raised or expressed concerns regarding privacy worries due to the company sharing and distribution of de-identified injury and illness data to other workers.

Sincerely,

Ralph Ortiz
Safety Committee Chairman
TeamstersSFO Local 856/986

UAW

Alyssa Giachino,

Received 5-31-2019



GARY R. JONES, *PRESIDENT* RAY CURRY, *SECRETARY-TREASURER*
VICE-PRESIDENTS: TERRY DITTES • CINDY ESTRADA • RORY L. GAMBLE

May 30, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building

Re: Comments Workplace Injury and Illness Records
Submitted by Brett Fox, UAW Health and Safety Department Director at: ElectronicReporting@dir.ca.gov

Dear Cal/OSHA Advisory Committee:

On behalf of one million active and retired members of the International Union, United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW), and our tens of thousands of California members, we are writing to support electronic submission of workplace illness and injury data. We urge CalOSHA to adopt regulations to protect California workers against the federal government's recently finalized rollback of the Tracking of Workplace Injuries and Illnesses rule, which would allow unscrupulous employers to hide workplace injuries and will seriously hinder efforts to identify and prevent workplace injuries. We strongly urge CalOSHA to reject OSHA's 2019 final rule which would repeal injury reporting requirements for large employers with 250 or more employees and instead adopt regulations consistent with the 2016 OSHA final rule.

California has advanced worker safety for decades – leading on Injury and Illness Prevention Program standards, heat-illness protections, chemical exposure limits and workplace violence prevention. Now more than ever we must continue to demonstrate our commitment to ensuring that workplaces are as safe as possible so that California's workers can thrive and contribute to the strength of our economy. Electronic data collection is imperative and sensible.

The UAW represents working men and women across the country in many sectors of the economy, including service workers in casinos, cafeterias and hospitals; professional researchers, nurses, and scientists; public sector employees; workers in primary metal manufacturing, foundries, aerospace and defense industries as well as truck, tractor and automotive manufacturing plants. To varying degrees, workers in any of these sectors are at risk of injury. Improvements in injury record keeping is of the utmost importance to the health of our members and working people throughout California and the country.

The UAW has long advocated for improvements in the injury tracking systems used in the workplaces where our members are employed. We have worked with the agency, employers, public health agencies and our members to improve the accuracy and completeness of workplace injury and illness data. At locations that pride themselves on maintaining the most advanced safety systems in the country, UAW members and their management counterparts have unfettered access to injury and illness data systems. Collaboratively, we have built effective safety programs such as ergonomic processes, hearing conservation programs, fatality prevention programs and chemical control programs that rely on accurate reporting and tracking of injuries and illnesses.

UAW advocated for the improvements brought about through the OSHA Data Initiative (ODI) and for the expansion of reporting requirements under OSHA's 2016 Improve Tracking of Workplace Injuries and Illnesses final rule. We supported all the provisions in the 2016 rule calling for workplace summary data, detailed workplace injury and illness data and anti-retaliation protections for workers reporting work related injuries or illnesses to employers. The 2016 rule made it possible for the first time to get systematic, timely, direct access to the information contained in the OSHA logs. Prior to this rule, information contained in the log for each workplace was available only on-site. Repeal of these key provisions returns injury and illness data to this primitive state.

The injury and illness data specific to establishment which was submitted voluntarily under the OSHA Data Initiative (ODI) have allowed OSHA to target limited resources to many dangerous workplaces. These data collected under ODI and made publicly available on the OSHA website have been useful to identify worksites with high rates of injuries. The new federal rules repeal part of OSHA's 2016 rule, Improve Tracking of Workplace Injuries and Illnesses, and will roll back the requirement that large employers submit important detailed information on injuries at their workplaces, information that companies already maintain in their OSHA 300 log and the OSHA 301 injury case reports.

California should preserve the detailed reports, which provide more comprehensive information about what is occurring in the workplace including types of injuries and the hazards that cause them. The 300 log and 301 injury case reports provide critical detail about the location and types of injuries within a worksite. We've been able to use that type of specific data to home in on problem areas and develop solutions to prevent future injuries.

The collection of this information will assist CalOSHA in allocating its limited resources, including compliance assistance and enforcement, to be more effective at preventing injuries and enable the agency to better identify and address patterns of injuries and causes, as well as emerging hazards.

Further, the collection of and access to these data would help the efforts of state agencies, researchers, workers, and worker representatives to identify and prevent workplace hazards. If California fails to protect electronic reporting, it will allow large employers in dangerous industries to continue to hide their records of workplace injuries.

Reporting for establishments >100 employees

We believe CalOSHA should set the reporting requirement for establishments with 100 or more employees. It is appropriate to set the threshold lower than the federal rule in order to collect more representative data, given the distribution of employment in California. Setting a reporting requirement at 100 or more would still only capture 1 percent of all private-sector establishments. Although it would exclude three quarters of the state's private-sector workforce, it would provide more complete data. Looking just at establishments with 100 or more employees that track OSHA logs, you would capture around 42 percent of those workers, or 4.2 million Californians.¹

Privacy Issues Related to Data Collection

In defending the new federal regulations, OSHA argued it is repealing injury reporting requirements for large employers to protect a worker's privacy. This is not based on evidence or fact. Workers and their organizations advocated for the 2016 rule and for the electronic submission of all this data.

¹ Source data: https://www.labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data_for_CA.html

Importantly, the 2016 injury rule was specifically designed to protect worker privacy.

The 2016 federal provisions clearly stated that no information that would identify individual workers was to be reported. If such information was accidentally submitted, OSHA made it clear it would never be released to the public. Further, OSHA's sister agency in the Department of Labor, the Mine Safety and Health Administration, has been collecting detailed injury information for decades, makes the information publicly available, and effectively withholds personally identifiable information –just as OSHA will.

Additionally, California's AB 2334² specifies the individually identifiable information may only be used by the Division of Workers' Compensation and the Division of Occupational Safety and Health as necessary to carry out their duties or to carry out the commission's research. It details that the administrative director shall adopt regulations that "include provisions guaranteeing the confidentiality of individually identifiable information."

In our view, CalOSHA should remain true to the original intent to make workplace injury data publicly available directly on the website. Publicly available data will give a full picture of patterns and systematic issues that exist across workplaces and within a company. Hence, it will provide a more complete picture of the state of occupational safety and health for entire companies and even industries.

Data Collection and Value for Science and Safer Workplaces

Data collection is key to creating safer workplaces, reducing lost-workday cases, and developing successful auto industry ergonomic programs. The UAW understands firsthand how valuable data is to reduce workplace injuries and has deliberate taken steps in improving data accuracy by:

- including the analysis of accident and injury data in contract negotiations with companies
- Including training of OSHA log analysis as a basic responsibility of Health and Safety representatives,
- Including mandatory review and analysis of osha logs by joint labor/management safety committees in the language of collective bargaining agreements.
- Conducting joint labor-management studies of injury rates between and among facilities within the same corporation
- Using data to benchmark corporation's safety programs

Access to individual level data, which is not available from the Bureau of Labor Statistics Annual Survey of Occupational Illnesses and Injuries or the 300A summary, will permit scientific analyses that were not previously possible without separately requesting and obtaining data on an employer by employer basis which can be a lengthy process. We believe that the collection of detailed data and making it public will advance the science of occupational health and safety. Many peer reviewed contributions to the scientific literature have been made using data from OSHA logs acquired by this painstaking method.

One of these³ was a three-part study conducted to understand the sources of lost time injuries in Chrysler facilities in which UAW members work. At each phase of the study, the use of OSHA log data was important. The study

² http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2334

³ This study produced multiple publications. Among them were:

Warner MI, Baker SP, Li G, Smith GS (1998). Acute traumatic injuries in automotive manufacturing. *American Journal of Industrial Medicine* 34(4):351-8.

Keyserling, W.M. (2003). Using multiple information sources to identify opportunities for ergonomic interventions in automotive parts distribution: a case study. *American Industrial Hygiene Association Journal*: Sep-Oct;64(5):690-8.

examined routinely collected data to identify injury types, high-risk workers, causes of injury, and factors associated with work loss.

Figure 1 demonstrates a disparity in risk and injuries between sectors of the corporation. The parts warehousing operations unexpectedly surpassed the other sectors in injury rates. Without this analysis, the facility and workers would not have been made aware that warehousing had the most serious injury rates because it was often characterized as a job with far fewer stressors than the assembly line. In addition, the data were used to determine injuries by severity and body type.

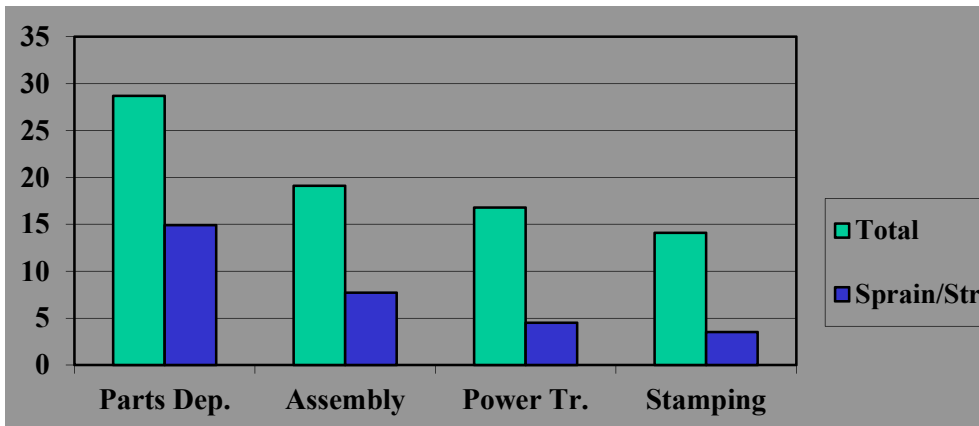


Figure 1: Parts depots show higher injury rates compared to the other sectors within the corporation⁴.

Figure 2 demonstrates that depots also had higher lost time injuries as a proportion of total injuries indicating that the injuries, when they did occur, were more severe.

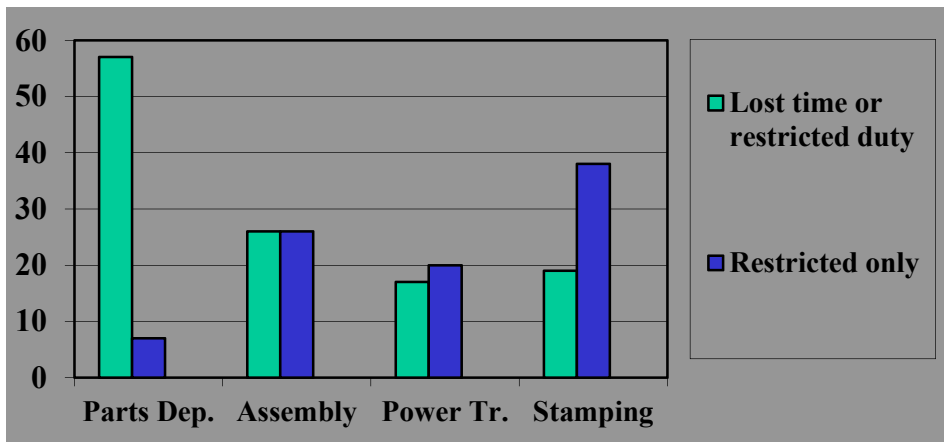


Figure 2: Parts depots also had higher lost time injuries as a proportion of total injuries indicating that, when injuries occurred, they were more severe.²

Figure 3 shows injury by age group, demonstrating a healthy worker effect as injury rates decline after age 39. The data revealed that seniority is protective. In addition, the analysis illustrated the factors associated with injury rates such as new hires are more prone to injury, older workers have more opportunity to bid on less stressful jobs, older workers are better trained. The aggregation of training and improved job skills serves to reduce injury rates among the older work force.

⁴ Warner et al. (1998) op cit.

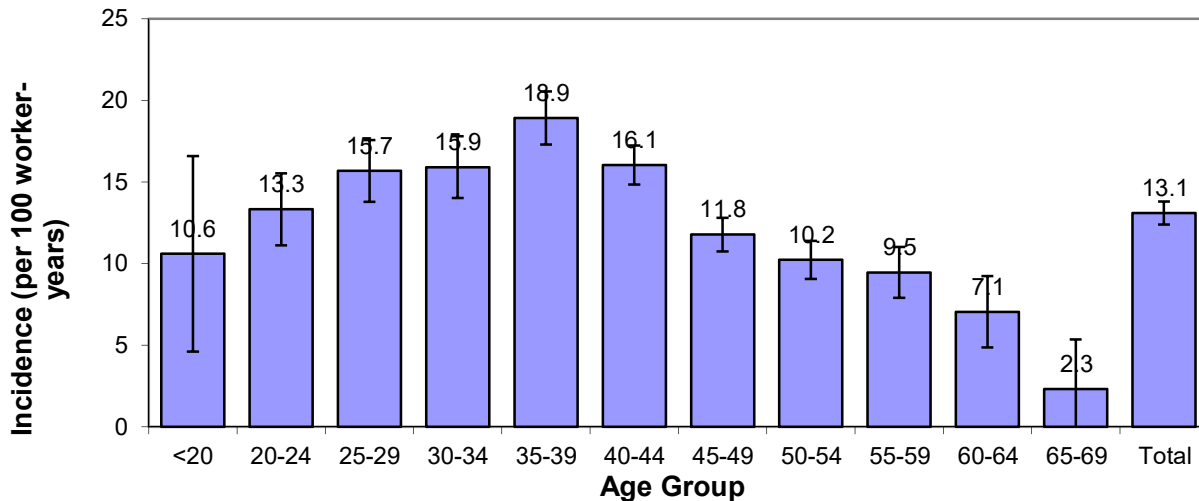


Figure 3: Injury by age group demonstrates a healthy worker effect as injury rates decline after age 39. The trend indicates that seniority is protective.⁵

In phase 2 of the study, injury data were used to identify problem jobs at the plant level. A set of tools were developed to characterize the risk of the problem jobs. Operators identified jobs that were prone to workplace injury including picking parts from low bins (Figure 4), awkward lifting tasks (Figure 5), and picking small parts from high bins (Figure 6). Data revealed that tasks that were thought to be least stressful, such as picking small parts from bins, was in fact one of the higher stressor jobs.

In a final phase of the study, a series of interventions were implemented (Figure 6b) and the reduction of hazards were documented.

Fiat Chrysler and the United Auto workers continue to use a system of injury tracking that includes OSHA log data to determine problem jobs and track differences across the organization.

⁵ *ibid.*



Figure 4: picking parts from bins was identified as a high stress job⁶.



Figure 5: As is readily apparent, this is a highly awkward lifting task. Moreover, cardboard tri-wall containers add to back stress because they do not allow workers to brace against the wall of the container when lifting⁴.

⁶ *Ibid.*



Figure 6a: Picking parts from high bins was associated with injuries reported on the OSHA 300 log⁷.



Figure 6b: Picture shows the same job depicted in 6a after new equipment was used to raise workers to the proper height to retrieve small boxed parts.

⁷ Keyserling, (2003). *op. cit*

In addition to the research presented above, many other peer reviewed contributions to the scientific literature have been made using data from OSHA logs. In all cases, the research was successfully conducted without putting workers' privacy at risk. Accompanying this submission are several published examples of such research made possible by cooperation among the UAW, employers and academic researchers. The citations for these publications are:

Adler, Paul S., Goldoftas, Barbara, Levine, David I. (1997). Stability and Change at NUMMI.

Boyer, Robert, Charron, Elsie, Jürgens, Ulrich, and Tolliday, Steven (1998). *Between Imitation and Innovation: The Transfer and Hybridization of Productive Models in the International Automobile Industry*. Oxford, England; New York: Oxford University Press.

Ku, Chia-Hua, Radwin, Robert G., and Karsh, Ben-Tzion (2007). Power Hand Tool Kinetics Associated with Upper Limb Injuries in an Automobile Assembly Plant. *Journal of Occupational and Environmental Hygiene*, 4: 391–399.

Punnett, Laura (2000). The Costs of Work-Related Musculoskeletal Disorders in Automotive Manufacturing. *New Solutions*. Volume: 9 issue: 4, page(s): 403-426.

Value of OSHA Log Data to Employees and Employers in Routine (non-Research) Safety & Health

Scientific research is immensely valuable in making workplaces safer. At the same time, most workplaces never see a researcher and, even in those that do, researchers eventually move on. For these reasons it is necessary to discuss the value of OSHA log data in routine safety and health as well. The UAW routinely uses OSHA log data to assist local unions and employers to make improvements in health and safety. We do so without putting worker privacy at any risk. Here are several examples:

From a report to a local union representing employees of a Pennsylvania defense contractor

OSHA 300 logs 2007-2012 were reviewed. Over that period, there were 70 recorded injuries and/or illnesses. 38 or 39 of these appeared to be ergonomically related. Of these, nine occurred in the New Products Division (NPD), more than any other location. However, all nine occurred in 2007 and 2008 and no injuries have been recorded in NPD since. Interestingly, of the 31-32 recorded injuries and/or illnesses not related to ergonomics, four were in NPD and again, none since 2008. If something has been done to make NPD considerably safer, that should be identified and reproduced in other parts of the facility. If something has been done to discourage reporting in NPD, that should be identified and reversed. In NPD, seven of those who suffered ergonomically related illnesses were Welder/Assemblers and three of those who suffered other kinds of injury were welder assemblers.

The second largest number of ergonomically related injuries and/or illnesses, 7 or 8, occurred in Air Circuit Breakers (ACB). Five of these occurred in 2010 or more recently. There were also three injuries not related to ergonomics that occurred in ACB in 2007 and one that occurred in 2010. The majority of those in ACB who suffered injuries or illnesses related to ergonomics were held the job title assembler and all of those in ACB who suffered other kinds of injuries or illnesses held that job title.

For twenty-nine of the recorded injuries that were apparently related to ergonomics, the activity associated with the report was noted. Nine of these reports were associated with lifting, more than any other task. With weights such as 75 lbs. for 802, this is not surprising. The next largest number of reports, four, was associated with “assembling,” a much less specific task than lifting.

1. *It is recommended that all lifting tasks in the facility should be analyzed with the NIOSH lifting equation (http://faculty.uml.edu/swoskie/recognition/Week5_Fall06%20NIOSH%20WPG.pdf), which is taught in training provided by the UAW Health & Safety Department.*
2. *Where necessary, jobs should be modified by providing mechanical assistance for lifting heavy parts.*

From a report to a local union representing the employees of an Ohio auto parts manufacturer

The table below, which summarizes the injuries reported at Bay 22 gives a strong indication of the problem with the tasks performed there.

Date	Body Part	Injury Type	Description
5/27/2010	Right Pinkie Finger	Pain and swelling	Carrying carpet to water jet
11/17/2010	Stomach	Pain	Throwing carpet on water jet buck
12/2/2010	Knee	Pain	Working on Bay 22
12/3/2010	Low Back	Pain	Throwing carpet on water jet buck
12/6/2010	Right Wrist	Pain/Stiffness	Throwing carpet on water jet buck
1/27/2011	Right Elbow	Pain	Repetitive grasping of parts
2/16/2011	Left Thumb	Dislocation	Stoved thumb while removing molded mat
3/25/2011	Right Shoulder	Pain	Picking up moly mid
4/30/2011	Left Elbow	Pain	Flipping carpet (using bar)
5/5/2011	Right Shoulder	Strain/Sprain	Throwing carpet on water jet buck
5/9/2011	Left Neck/Shoulder	Pain	Throwing carpet on water jet buck
6/13/2011	Left Shoulder	Strain/Sprain	Throwing carpet on water jet buck

Six different injuries, including three shoulder injuries, a wrist injury, a back injury and a stomach injury resulted from throwing the 47-pound carpet on a water jet buck.

Below is a photograph of that activity (in which the second employee is entirely obscured by the carpet). In the photograph it can be clearly seen that the employee's shoulder undergoes a lot of stress from this activity. As a result, the shoulder injuries are not surprising.



An additional injury to the left elbow occurred in the process of performing the same activity using a pole. Here is a picture of that. Again, the second employee is obscured. It can be seen that employees bent elbow bears much of the weight.



The obvious exertion entailed in this activity, combined with the fact that the carpet weighs 47 pounds in an adequate explanation of the injuries.

From a report to a Local Union representing employees of an Indiana Auto Parts Company

According to OSHA 300 logs from an Indiana Auto Parts Company, there have been nine recordable musculoskeletal disorders since 2010. This is a greater number than any other condition. The nine recordable

MSDs have resulted in a total of 115 lost workdays and 140 transfer or restriction days. All other recordables combined have resulted in no lost workdays and 157 transfer or restriction days. Thus, the most important cause of recordables in the facility is ergonomic risk factors.

- 1. It is recommended that all shop floor employees receive one-hour Ergonomics Awareness Training from the UAW Health & Safety Department.*
- 2. It is recommended that management and Local 164 leadership receive four hours Leadership Ergonomics Training from the UAW Health & Safety Department.*
- 3. It is recommended that the Health & Safety Committee and/or others chosen respectively by Local 164 and Indiana Auto Parts Company to be responsible for ergonomics of the new lines going in, as well as for ongoing ergonomic improvements, receive 40 hours Practical Ergonomics Training from the UAW Health & Safety Department.*

The above examples all show the value of detailed OSHA 300 log data and 301 injury reports in routine health and safety and the fact that it is routinely used with no threat to worker privacy. In union workplaces, employers must provide OSHA logs to non-employee union representatives upon request. There is little opportunity for employers to retaliate against these representatives. In non-union workplaces, workers may refrain from requesting OSHA logs, due to fear of retaliation. Making OSHA logs available online will permit employees of non-union workplaces to obtain them without fear of retaliation. This will facilitate the use of OSHA logs in non-union workplaces to fix hazards in a manner similar to the use of the log data in the examples above.

In conclusion, we strongly support CalOSHA adopting regulations to implement electronic submission of OSHA 300 and 301 data, in addition to the 300A summary data, consistent with the 2016 federal rule on Improved Tracking of Workplace Injuries and illnesses. We provided evidence and OSHA logs in the comments to underscore the importance of data in creating safer workplaces, reducing lost-workday cases, and developing successful auto industry ergonomic programs. Further, as documented, the UAW routinely uses OSHA log data to assist local unions and employers to make improvements in health and safety. It is routinely done without putting worker privacy at any risk. Thank you for the opportunity to share our views on this critically important matter.

Sincerely,

Brett Fox
UAW Health and Safety Department Director

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UNITE/HERE

Pamela Vossenias,

Received 5-31-2019

May 31, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building
1515 Clay Street, Suite 1901
Oakland, CA 94612

[Comments filed electronically via ElectronicReporting@dir.ca.gov]

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Cal/OSHA Advisory Committee,

On behalf of UNITE HERE International Union, I submit this letter of support for the State of California to require employers to electronically submit information from employer logs of work-related illnesses and injuries found on Cal/OSHA Form 300 and from incident reports from Cal/OSHA Form 301. Our recommendation to include such a requirement echoes the comments we submitted on September 28, 2018 to federal OSHA expressing our opposition to OSHA's proposal to revoke such a requirement for large establishments of 250 employees or greater (see attached comments).

UNITE HERE represents workers throughout the United States who work in the hotel, gaming, food service, airport, textile, manufacturing, distribution, laundry, and transportation industries.

To quote from UNITE HERE IU's September 28, 2018 comments, "The collection of this workplace injury and illness data and its public availability will provide information to workers, employers, the government and researchers on the extent of injuries and illnesses occurring in individual workplaces. For larger establishments, the detailed data will provide information on the types of injuries and the hazards that cause them. This information will assist efforts to target resources and attention to the most dangerous workplaces and the hazards and exposures responsible for job injuries, illnesses and deaths."

Such information is crucial for identifying hazards, high-risk occupations and industries; improving CalOSHA's ability to target its enforcement activities on hazardous industries; and prioritizing those occupations and industries in greater need of worksite interventions. This data can improve surveillance in support of injury and disease prevention and control.

In addition, UNITE HERE International Union supports the key points below submitted by the worker health and safety organization, WORKSAFE, based in Oakland, California's submitted this past week:

1) Access to detailed, establishment-level injury and illness data will aid hazard identification and prevention;

- 3) More detailed injury and illness information can improve the efficient use of Cal/OSHA and public health resources;
- 4) Access to more detailed injury and illness information allows workers and advocates to identify problems for intervention; and
- 5) Hazard identification, control, and benchmarking by employers.

Also, the 2016 federal OSHA requirement for electronic submission of work-related injury and illness data protects worker privacy by excluding information that would identify individual workers. Therefore, UNITE HERE recommends that such safeguards be included in CalOSHA's requirements.

One important use of the above information is for policy setting and creation of standards. A recent example of scientific research using the employer's logs of work-related injuries and illnesses is a study by Dr. Susan Buchanan and eight co-authors published in the peer-reviewed American Journal of Industrial Medicine in February 2010, "Occupational Injury Disparities in the US Hotel Industry"¹, that identified hotel housekeepers as a high-risk occupation among hotel workers studied for occupational injuries overall and for work-related musculoskeletal disorders, in particular. This study used data abstracted from hotel employers' logs of work-related injuries (OSHA Form 300). The study findings were included in UNITE HERE's petition to the California Occupational Health and Standards Board in 2012 requesting the creation of a musculoskeletal injury prevention standard for hotel housekeepers. This research contributed to the scientific data that was cited in the promulgation of CalOSHA Title 8.3345 Hotel Housekeeping Musculoskeletal Injury Prevention standard that took effect July 1, 2018.

In summary, UNITE HERE International Union encourages Cal/OSHA to adopt requirements similar to the 2016 federal OSHA rule on electronic submission of work-related injury and illness data for employers with 250 employees or more and by doing so, increase and improve its efforts to prevent and control occupational injury and disease occurring to workers in California. Thank you.

Respectfully submitted,

Pamela Vossen

Pamela Vossen, DPHc, MPH
Deputy Director
Worker Safety and Health Program
UNITE **HERE!** International Union

¹ Am J Ind Med. 2010 Feb;53(2):116-25. doi: 10.1002/ajim.20724

September 28, 2018

Deputy Assistant Secretary Loren E. Sweatt
OSHA Docket Office
Room N-3653
U.S. Department of Labor
200 Constitution Avenue NW
Washington, DC 20210

Re: Docket No. OSHA-2013-0023, Tracking of Workplace Injuries and Illnesses

Dear Deputy Assistant Secretary Sweatt,

I am writing on behalf of UNITE HERE to express our opposition to OSHA's proposal to revoke provisions of OSHA's recordkeeping regulations that require larger establishments (250 employees or greater) to submit detailed injury and illness data to OSHA. (83 Fed. Reg., July 30, 2018, pp 36494-36507).

This proposed action will make it harder to identify dangerous workplaces, the types of injuries that are occurring and the hazards that cause them, and to take action to prevent them.

UNITE HERE represents workers throughout the United States who work in the hotel, gaming, food service, airport, textile, manufacturing, distribution, laundry, and transportation industries.

In May 2016, the Obama administration issued an important new regulation- Improve Tracking of Workplace injuries and Illnesses (81 FR 29624) – to provide OSHA, workers, employers, researchers and the public ready access to workplace injury data to help identify hazards and prevent injuries. Winning this rule was a major victory for workers, making it easier to track workplace injuries and strengthening protections for workers who report injuries.

The Injury Tracking rule does not impose any new recordkeeping requirements on employers. It simply requires certain employers to report the data from their OSHA required injury records to the agency. OSHA has required employers to keep workplace injury records since 1971, and workers, unions and OSHA have the right to access injury records at individual workplaces. But there has been no way to get direct, timely systematic access to workplace specific injury and illness data. Prior to the new rule, OSHA required a small number of employers to send summary injury information to OSHA under the OSHA Data Initiative.

The 2016 rule greatly expanded the number of employers required to submit injury data and expanded the detail of information submitted by large employers. It also strengthened protections for workers who report injuries.

Specifically, it requires large establishments with 250 or more workers to electronically submit more detailed injury data from their OSHA 300 logs and information from the OSHA 301 individual case reports starting in July 2018. (To protect worker privacy, this excluded information that would identify individual workers.)

The collection of this workplace injury and illness data and its public availability will provide information to workers, employers, the government and researchers on the extent of injuries and illnesses occurring in individual workplaces. For larger establishments, the detailed data will provide information on the types of injuries and the hazards that cause them. This information will assist efforts to target resources and attention to the most dangerous workplaces and the hazards and exposures responsible for job injuries, illnesses and deaths.

The administration proposes to repeal the requirements for large employers (establishments of 250 or more workers) to report the injury data from the OSHA 300 log and the injury case reports (OSHA 301s). This would mean that information on the types of injuries that are occurring and the hazards that cause them would no longer have to be reported to OSHA. OSHA would only get information on the number and rates of workplace injuries reported on the OSHA 300A summary.

OSHA should withdraw this proposal and move ahead to fully implement the 2016 final rule.

Sincerely,

Pamela Vossen

Pamela Vossen, DPHc, MPH
Director, Worker Safety and Health Program
UNITE HERE! International Union
212-332-9318
646-305-7304 cell

Worksafe

Mara Ortenburger/Maggie
Robbins,

Received 5-31-2019



May 31, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building
1515 Clay Street, Suite 1901
Oakland, CA 94612
[Comments filed electronically via ElectronicReporting@dir.ca.gov]

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Cal/OSHA Advisory Committee,

Worksafe submits the following comments regarding Electronic Reporting of Workplace Injury and Illness Data. Worksafe is a California-based organization dedicated to promoting and protecting the basic right of all people to a safe and healthy workplace. We collaborate with labor unions, worker centers, legal aid organizations, and public health advocates to support protective worker health and safety laws and effective remedies for injured workers.

Worksafe supports a requirement that employers with OSHA recordkeeping obligations electronically submit information from Cal/OSHA Form 300 (Log of Work-Related Injuries and Illnesses) and Form 301 (Injury and Illness Incident Report) for establishments with 100 or more employees. At a minimum, this reporting should be required of establishments with 250 or more employees in order to restore recently rescinded provisions of the federal OSHA recordkeeping regulations and fulfil the mandate of AB 2334 (Thurmond).

Background

One of the actions of the Department of Labor under the Trump Administration was to eliminate key provisions of OSHA's 2016 "Improve Tracking of Workplace Injuries and Illnesses" rule. They eliminated provisions that would have required employers with 250 or more employees to electronically report data from their injury and illness logs and incident reports.

This decision contradicts OSHA's mission to protect workers' health and safety because the collected information would significantly assist the agency's use of its scarce resources to prevent serious workplace injury and illness. We dispute OSHA's claim that this rollback was necessary to protect employee privacy since the final rule was designed specifically to protect workers' privacy. Further, the practices of OSHA's sister agency, MSHA, prove that collecting and providing detailed injury and illness data is possible while withholding personally identifiable information.

Anticipating the Administration's actions, in 2018 Governor Brown signed into law AB 2334 (Thurmond), which requires Cal/OSHA to "evaluate how to implement the changes necessary to protect the goals of the Improve Tracking of Workplace Injuries and Illnesses rule."¹ Consistent with the intent of AB 2334, it is important that Cal/OSHA restore to California workers, researchers, and enforcement personnel access to the data about workplace injuries and accidents that the Trump Administration took away.

1) Access to detailed, establishment-level injury and illness data will aid hazard identification and injury prevention.

In 2018 the National Academy of Sciences (NAS) report, "A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century," explained the vital importance of detailed injury and illness data. The authors identified key gaps in the nation's occupational safety and health (OSH) surveillance system including a lack of "ready access to establishment-level data by government agencies for targeting preventive outreach and enforcement."² The report determined that a more robust OSH surveillance system would provide critical information about the circumstances in which workers are injured or made ill at work. This information could be used to identify high risk workplaces, vulnerable populations, emerging trends, and opportunities for prevention. The authors conclude these data are "essential to develop effective prevention programs and target future research."³

Had they not been rolled back, the electronic reporting provisions of the 2016 federal rule would have addressed many of the deficiencies identified in the NAS report and established a critical source of injury and illness data for use by OSHA, NIOSH, state agencies, employers, workers, and researchers.

California can lead the way in demonstrating the critical importance of this type of data for driving hazard identification and injury prevention. The information could help direct a range of surveillance and prevention purposes such as targeting for the development of intervention and prevention efforts. For example, it could be used by the CDPH Occupational Health Branch and Cal/OSHA's education and consultation services. It could assist the more effective targeting of compliance activity on the most dangerous establishments. It can create opportunities to conduct outreach, build tools, and provide assistance to employers to identify and address hazards at individual worksites. Cal/OSHA acknowledged the importance of such a data collection system in written comments provided to OSHA for their rulemaking.^{4,5}

¹ Assembly Bill 2334, Thurmond. Occupational injuries and illness: employer reporting requirements: electronic submission. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2334

² National Academies of Sciences, Engineering, and Medicine. 2018. *A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24835>. 130-31.

³ Id. at 1.

⁴ Andre Schoorl/DIR, 9/28/2018 *Comments on the proposed OSHA rule (docket number OSHA-2013-0023), Improve Tracking of Workplace Injuries and Illnesses, posted July 30, 2018.*

Cal/OSHA requires records be kept in the first place because grounding a safety program in understanding the hazards of a workplace is critical. The 300/301 forms are not meant as a 'gotcha' tool, but rather they set a minimum level of data collection that could and should be used to identify hazards and prevent injuries in a workplace.

2) More detailed injury and illness information can improve the efficient use of Cal/OSHA and public health resources

Cal/OSHA has very limited inspection and compliance assistance resources, making it impossible for the agency to have first-hand knowledge of the preventive practices in place at workplaces across the state. Therefore, we need to make better use of the data already being collected. For Cal/OSHA, collecting more detailed injury information would aid critical decision making about where to dedicate its limited inspection resources. Having Form 300 and 301 data available electronically would be a valuable source of information to make decisions on how to apply agency personnel and other resources. This information, which employers already create and store, could be put to much better use to create safer worksites.

Some ways this data can be used by Cal/OSHA and CDPH/OHB:

- Gather information for investigations related to a complaint or serious injury or fatality report, prior to a site visit.
- Improve targeting of both Cal/OSHA and CDPH consultation/compliance assistance resources to focus on establishments with a demonstrably high experience of incidents and to target the types of incidents they actually report. This would enable a more rapid response to emerging issues revealed by the data.
- Improve focus for CDPH research, education, and consultation efforts to reflect the emerging issues and the more harmful establishments, work tasks, hazards, and injury causes/types revealed by the data.
- Improve targeting of inspection resources to apply more to sites with demonstrably high experience of incidents. Currently Cal/OSHA's programmed inspections are based more on random selection of establishments in 'high-hazard' industries, XMODs, or simply the number of compensation claims filed. These are outdated methods we have the ability to improve with electronic collection of Form 300 and 301 data.

Without the requirements that have been stripped from the electronic reporting rule, Cal/OSHA will continue to only receive the total numbers of workplace injuries from the Form 300A summary; these would come from establishments with 250 or more employees and those in certain high-hazard industries with 20-249 employees. While the summary data are important, the Form 300 and 301 data contain additional useful information about the types and causes of the injuries and illnesses at these sites.

⁵ Christine Baker/DIR, 3/10/2014 *Comments on the proposed OSHA rule (docket number OSHA-2013-0023), Improve Tracking of Workplace Injuries and Illnesses*

3) MSHA is an example of how an agency can effectively and responsibly use robust injury and illness information in enforcement.

Cal/OSHA needs only to look to OSHA's sister agency, MSHA, for an example of a long-term workplace injury and illness data tracking system that effectively reports information publicly while protecting worker privacy.⁶

MSHA regulations (30 C.F.R. Part 50) require all mining firms to report injury, illness, and near miss incidents to the agency within 10 working days of the event. There are 27 mandatory items on the reporting form (called the MSHA 7000-1 form), such as the worker's name, age, job title, years of experience, nature of the injury (e.g., laceration, amputation) severity of the injury (e.g., fatality, lost-time injury, restricted duty) and a brief description of the incident. If treatment for the injury demands restricted duty or lost-time, the employer is required to submit an updated incident report with a final disposition of the incident (e.g., total number of days lost). The information can be submitted by the employer using MSHA's website or a mailed-in paper form.

By 2001, selected information from every 7000-1 report submitted was posted on MSHA's website. The site-specific information includes the name and location of the mining operation, the controlling company, a brief description of the incident, the nature and severity of the injury, and the job title of the affected worker. These site-specific records of injury, illness, and near-miss incidents, which are available on MSHA's website, date back to 1983. In addition, beginning in 2010, MSHA began posting a complete, unredacted copy of the MSHA 7000-1 form for every fatal-injury incident on its website. To our knowledge there has been no breach or inadvertent disclosure of miners' personal information in that time.

MSHA's policy of posting injury, illness, and near miss reports on-line, has allowed interested mine workers to review electronically the records their employer submitted to MSHA in a location of their choosing. It has also enabled NIOSH, MSHA, and other researchers to study the root causes of health and safety issues with the ultimate purpose of creating more effective preventative interventions to improve the working conditions of mine workers.

MSHA extensively uses the injury and illness data it collects in its enforcement efforts. Inspectors review Part 50 data to prepare for an inspection and review the logs on-site as part of the inspection process. Injury data is one of a number of indicators used by the agency to identify mines for targeted enforcement efforts. The data mine operators submit allow MSHA to audit the injury records of mines with other troubling indicators of serious safety or health issues, including in some cases the *absence* of reported injuries. It is also an important data point for MSHA

⁶ The information concerning MSHA is based on the personal first-hand knowledge of Douglas L. Parker, Executive Director of Worksafe and former Deputy Secretary for Policy at MSHA. In his capacity as Deputy Secretary he oversaw MSHA's department of Program Evaluation and Information Resources, which maintained the database for all MSHA Part 50 data.

management when identifying mines for elevated enforcement efforts, including the pattern of violations program targeting chronic violators and the impact of “blitz” inspection program.

4) Access to more detailed injury and illness information allows workers and advocates to identify problems and develop solutions.

Information contained in the Cal/OSHA Form 300s has been vital to workers and advocates pushing for workplace improvements. For example, in 2012 the Warehouse Worker Resource Center (WWRC) helped a group of warehouse workers request 300 logs from their employer. Analyzing the information found in the logs enabled the workers to file a successful Cal/OSHA complaint for numerous health and safety issues. Through this process, the workers were able to work towards preventing worker injury, illness, and death in the warehouse. Without the support of a worker center like WWRC, a form of support not available to most workers, it is unlikely that this information would have ever come to light.

In another example, injury records from Tesla’s Fremont manufacturing facility received international attention when it was revealed through an analysis of its Cal/OSHA Form 300 records that it had rates of serious injuries that were more than double the industry average.⁷ Worksafe assisted the workers who requested the logs. Those workers were called out and shamed by their employer for exercising their rights. Workers often face much harsher retaliation than that, chilling the frequency with which workers exercise the right to obtain this information.

In the case of Tesla, reviewing the Form 300 logs was critical in determining where injuries occurred, the most common injury types, and the accuracy of the logs. As a result of the Form 300 requests, Tesla revised two years of reporting, substantially changing the summary information on its Form 300A form and including hundreds of injuries that had not been previously reported on its Form 300 reports.⁸ With only the 300As, Tesla’s failure to report would not have been discovered.

Both of these examples demonstrate the importance of transparency and publicly available injury and illness data. While in these instances the information was obtained through worker requests, not every worker has the support of a union or worker center in helping them gain this information. The successes of these examples can only be replicated on a scale that would help workers across the state by making basic injury and illness information publicly available.

5) Access to more detailed injury and illness information enables employers to conduct more effective hazard identification, control, and benchmarking.

Employers can and should learn from their own data — this is one of the reasons Cal/OSHA requires records be kept in the first place. In this century, our expectations as a nation about the data we should have access to has changed relative to what we imagined possible in the 1970’s.

⁷ Worksafe, *Analysis of Tesla Injury Rates: 2014 to 2017* (May 24, 2017).

https://worksafe.org/file_download/inline/4a083614-a57b-4177-b14f-48a8b2b2fb3d

⁸ Evans, W., & Jeong Perry, A. (2018, April 16). Tesla says its factory is safer. But it left injuries off the books.

<https://www.revealnews.org/article/tesla-says-its-factory-is-safer-but-it-left-injuries-off-the-books/>

Assumptions about how public employer- or establishment-level information should be needs to be reevaluated. Greater transparency of establishment-level injury and illness data (with worker identity removed) would allow employees and managers to see their own data, as well as to benchmark to other establishments in their own industry, geographic area, or size.

6) It is possible to make establishment-level data available while protecting worker privacy.

The language of the final 2016 federal rule ensured that confidential employee information would be safeguarded, and similar precautions should be included in a California rule. In fact, the preamble of the 2016 rule read:

“While OSHA intends to make the information described above generally available, the Agency also wishes to emphasize that it does not intend to release personally identifiable information included on the forms.... OSHA plans to review the information submitted by employers for personally-identifiable information. As part of this review, the Agency will use software that will search for and de-identify personally identifiable information before OSHA posts the data.”

The 2016 rule stated that no information that would identify individual workers was required to be reported. Further, if such information was accidentally submitted, OSHA made it clear it would not be released to the public. Given that injuries of a sensitive or potentially embarrassing nature are not required to be identified in the logs under OSHA reporting rules, that the rule provides for the redaction of employee names and addresses from data reported to OSHA, and that this information is already available to any employee upon request in its unredacted form, we see no basis for the privacy concerns stated by the agency.

Again, MSHA has been collecting detailed information on every mine injury for decades on its Mine Data Retrieval System while both making establishment level information public and successfully protecting personally identifiable information from disclosure.

7) California can explore options for building upon existing data collection systems.

California already collects information about individual employer establishments though the Quarterly Census of Employment and Wages, carried out in cooperation with the U.S. Department of Labor’s Bureau of Labor Statistics (BLS) and the California EDD’s Labor Market Information Division (LMID). These data are gathered for ‘statistical’ purposes and are highly protected. It would be worthwhile to explore the possibility of gathering additional information as an addendum to this existing data collection platform, to avoid duplication of data inputting of basic establishment information (e.g. company name, location, number of employees, industry classification, etc). DIR could also investigate the possibility of collecting publicly accessible injury and illness information for Cal/OSHA record submission requirements, separate from the statistical information collected for BLS & EDD census purposes.

8) To cover a larger portion of the state’s workforce, employers with 100 or more employees should be included in electronic reporting requirements.

Expanding the pool of workplaces required to report from establishments with more than 250 workers to establishments with more than 100 workers will further improve the pool of data and the positive impact these data will have on worker safety and health.

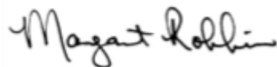
It is important to note that the 250+ threshold covers a very small fraction of California’s private sector employers. According to EDD labor market data for 2018, there are approximately 3,900 establishments with more than 250 employees that are required to keep OSHA records.⁹ This group represents 0.3 percent of all private sector establishments in the state. By contrast, there are approximately 15,900 establishments with more than 100 employees that are required to keep OSHA records. This represents 1.0 percent of all private sector establishments in the state.

Likewise, the 250+ employee threshold only covers about 14 percent of private sector workers in the state. Lowering the threshold to 100+ employees would increase the percentage of covered private sector workers to about 24 percent. In other words, the 100+ employee threshold would make a substantial difference in the number of workers covered by the data collection while adding only an additional 0.7 percent of establishments to the data-reporting requirement.

Conclusion

Our capacity to capture, analyze, and use data has advanced substantially since 1973, and it is time for Cal/OSHA’s thinking about data systems to evolve accordingly. The data that would have been collected under the 2016 federal rule would have been used to increase the effectiveness of efforts to improve the health and safety of workers and prevent worker deaths. In light of these goals, and with the advances in software and technology, Cal/OSHA can enhance efforts to protect workers as well as ensure their privacy. Worksafe urges Cal/OSHA to consider all options available to it to collect the data, make it publically available, protect workers’ privacy, and use the information to more effectively protect California’s workforce.

Sincerely,



Margaret Robbins
Occupational & Environmental Health Specialist
Worksafe

⁹ California Employment Development Department (CA EDD). *Number of Businesses, Number of Employees, and Second Quarter Payroll by Size of Business*, 2018 Quarter 2, the most recent data available at the time of writing.

UCOP

Anyi Zheng,

Received 5-9-2019

From: [Anyi Zheng](#)
To: [DIR Electronic Reporting](#)
Cc: [Anyi Zheng](#)
Subject: Written comments
Date: Thursday, May 09, 2019 12:02:18 PM

Hi,

Regarding reporting of 300 and 301 data, we would like to understand how the PII data will be protected during the electronic submittal and how the PII data will be protected after submittal from being released under a public records request.

Thanks,
Anyi

Warehouse Workers Resource Center

Sheheryar Kaoosji,

Received 5-31-2019



May 31, 2019

Attention: Glenn Shor
Cal/OSHA Advisory Committee on Electronic Reporting
Elihu Harris State Building
1515 Clay Street, Suite 1901
Oakland, CA 94612

[Comments filed electronically via ElectronicReporting@dir.ca.gov]

Re: Electronic Reporting of Workplace Injury and Illness Data

Dear Cal/OSHA Advisory Committee,

The Warehouse Worker Resource Center submits the following comments regarding Electronic Reporting of Workplace Injury and Illness Data. We support a requirement that employers electronically submit information from Cal/OSHA Form 300 (Log of Work-Related Injuries and Illnesses) and Form 301 (Injury and Illness Incident Report) for establishments with 250 or more employees. This action is needed to restore recently rescinded provisions of the federal OSHA recordkeeping regulations. In addition, we believe the size threshold should be reduced to include establishments with 100 or more employees, to cover substantially more of the workforce and to increase transparency to the public of injury and illness data.

The Warehouse Worker Resource Center is dedicated to improving the lives of warehouse workers and their families in Southern California. Since its founding in 2011, the WWRC has organized warehouse workers to improve their working and living conditions across Southern California – home to over 100,000 people working the largest concentration of warehouses in the world. We support workers who are dealing with wage theft, health and safety violations and other issues in the workplace, through education, advocacy and action. We have supported workers in filing over a dozen Cal/OSHA complaints leading to hundreds of thousands of dollars in citations against major employer in workplaces covering over 5000 workers.

One of the actions of the Department of Labor under the Trump Administration to roll back worker protections was to eliminate key provisions of the Occupational Safety and Health Administration's (OSHA) 2016 "Improve Tracking of Workplace Injuries and Illnesses" rule. They eliminated provisions which would have required employers with 250 or more employees to electronically report data from their injury and illness logs and incident reports that would have been made available for a variety of uses to reduce future injuries and illnesses.

Anticipating the Administration's actions, in 2018 Governor Brown signed into law AB 2334 (Thurmond), which requires Cal/OSHA to "evaluate how to implement the changes necessary to

protect the goals of the Improve Tracking of Workplace Injuries and Illnesses rule.” Consistent with the intent of AB 2334, it is important that Cal/OSHA restore to California workers, researchers, and enforcement personnel access to the data about workplace injuries and accidents that the Trump Administration took away.

Without the reporting requirements that have been stripped from the electronic reporting rule, Cal/OSHA will only receive summary data on the total numbers of injuries, illnesses, and hours worked at these establishments. While the summary data are important, the employers’ Form 300 logs and Form 301 Incident Reports contain additional useful information about the types and causes of the injuries/illnesses at these sites. This will allow workers, advocates, researchers, and professionals to access industry-specific data that will help us to identify workplace hazards, target preventive outreach and enforcement, and guide and stimulate prevention efforts. Additionally, expanding the pool of workplaces required to report from establishments with more than 250 workers to establishments with more than 100 workers will further improve the pool of data and the positive impact this data will have on worker safety and health.

Some ways this data could be used include:

- By workers and advocates: workers and advocates can use the data to identify problems for intervention and to push for workplace improvements;
- By employers: employers can learn from their own data in identifying and controlling hazards, as well as benchmarking them with data of comparable establishments by industry, geographic area, or size;
- By Cal/OSHA: the agency can use the data to prepare for investigations, intervene at workplaces where there are high numbers of injuries or illnesses, improve targeting to focus on establishments or sectors with demonstrably high experience of incidents, and be strategic in responding through outreach and other efforts based upon emerging issues revealed by the data; and
- By the California Department of Public Health (CDPH): the data will help improve focus for CDPH research, education, and consultation efforts on emerging issues and on those industries, establishments, work tasks, hazards, and injury causes/types revealed by the data.

The Warehouse Worker Resource Center talks every day to workers from major warehouse and other employers across Southern California and we often identify workers who report injuries to us but have not reported them to their employers, either because they don’t know the process or were discouraged from doing so by their boss. Many of these workers are employed through staffing agencies or under extremely insecure conditions and have significant pressure against them. Workers in these situations are often afraid to request their employers’ Log 300 from their employer, because in many cases even the request of information is construed by managers as subordinate or insurgent.

The privacy concerns cited by federal OSHA and raised by those who oppose the adoption of these reporting requirements are unfounded. The 2016 federal final rule was designed specifically to protect workers' privacy. It stated that no information that would identify individual workers was required to be reported. Similar precautions should be included in a California rule. Given that the identity of workers suffering injuries of a sensitive or potentially embarrassing nature are not required to be included in the employer's OSHA injury logs in the first place, and that the rule provides for the redaction of employee names and addresses from data reported to OSHA, we see no basis for objections based upon privacy concerns.

For these reasons, we urge the agency to move forward with rulemaking that restores the reporting requirements of OSHA's 2016 final rule and expands its scope to include establishments with more than 100 employees.

Sincerely,

A handwritten signature in black ink, appearing to read "Sheheryar Kaoosji", is centered within a light gray rectangular box.

Sheheryar Kaoosji
Executive Director
Warehouse Worker Resource Center