

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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SUMMARY
PUBLIC MEETING/PUBLIC HEARING/BUSINESS MEETING

February 15, 2007
Oakland, California

I. PUBLIC MEETING

CALL TO ORDER AND INTRODUCTIONS

Chair MacLeod called the Public Meeting of the Occupational Safety and Health Standards Board (Board) to order at 10:00 a.m., February 15, 2007, in Room 11 of the Harris State Building, 1515 Clay Street, Oakland, California 94612.

A. ATTENDANCE

Board Members Present

Chairman John MacLeod
Liz Arioto
Jonathan Frisch, Ph.D.
Jose Moreno
Art Murray
Steven Rank

Board Staff

Keith Umemoto, Executive Officer
David Beales, Legal Counsel
Michael Manieri, Principal Safety Engineer
Tom Mitchell, Senior Industrial Hygienist
Hans Boersma, Senior Safety Engineer
Marley Hart, Staff Services Manager
Christina Witte, Executive Secretary

Others present

Tina Kuhnouich, Fed OSHA
Tony Serdas, CAL/OSHA
Stan Rhyu, CAL/OSHA
John Leahy, CAL/OSHA

Association

Curtis Crooks, Squaw Valley Ski Corp
Mark Mcallister, UALL Resorts
Jeff Goldstone, Alpine Meadows Ski Corp
Scott Swretanski, Alpine Meadows Ski Resort
Larry Heywood, California Ski Industry Association
C. Duane Niesen, CSIA
Kevin Thompson, CAL/OSHA Reporter

Board Members Absent

Larry Gotlieb

Division of Occupational Safety and Health

Len Welsh, Acting Chief
Steven Smith, Supervising Industrial Hygienist

Steve Hart, CAL/OSHA

R.C. Peters, Avalanche Control Systems

Bob Roberts, California Ski Industry Association

Kathy Hubbard, California Ski Industry

Bo Bradley, AGC of CA

Elizabeth Treanor, PRR

Kevin Bland, CFCA

Bobby Huyt

Lynne Formigli, CTA

Nathan Heit, Mammoth Mountain Ski Area

Lel Tone, Squaw Valley

Jim Kegef

Patrick Bell, DIR/DOSH

Bob Hornaner, NCCCO

Peter Robertson, CAL/TRANS

Steve Johnson, Associated Roofing contractors of
the Bay Area counties, Inc

B. OPENING COMMENTS

Chair MacLeod indicated that this portion of the Board's meeting is open to any person who is interested in addressing the Board on any matter concerning occupational safety and health or to propose new or revised standards or the repeal of standards as permitted by Labor Code Section 142.2.

Chair MacLeod asked that Dr. Robert Harrison step forward. Dr. Harrison was a member of the Standards Board for three years. His experience is in epidemiology, medicine, and public health, and the Board was fortunate to have him serve for that time period. During Dr. Harrison's tenure, a number of health and safety related issues were presented to the Board, and his expertise was invaluable in these matters. Dr. Harrison participated fully in Board activities from month to month. Chair MacLeod then presented Dr. Harrison with a plaque expressing appreciation for his service and asked for comments from the Board members.

Mr. Rank stated that it had been a pleasure serving with Dr. Harrison. Mr. Rank went on to state that Dr. Harrison brought a medical expertise to the Board that had not been present prior to his appointment.

Ms. Arioto expressed her thanks to Dr. Harrison, as well, stating that his concern was always for the workers in California and that was evident by his participation in Board activities.

Chair MacLeod then continued with the Public Meeting.

C. ADJOURNMENT

With no further comments, Chair MacLeod adjourned the Public Meeting at 10:06 a.m.

II. **PUBLIC HEARING**

A. PUBLIC HEARING ITEM

Chair MacLeod identified the proposals to be heard during the public hearing and stated that the Informative Digest for the proposed changes was contained in the Notice of Hearing. He stated that the Notice of Hearing, including the proposed text and Initial Statement of Reasons, was available at the entrance to the room.

1. TITLE 8: **CONSTRUCTION SAFETY ORDERS**
Chapter 4, Subchapter 4, Article 34
Section 1801
TUNNEL SAFETY ORDERS
Chapter 4, Subchapter 7, Article 6
Section 8416

Update of ANSI Z136.1 Laser Safety Standards, Warning Signs, Labeling, and Posting of Signs

Mr. Manieri stated that the proposal consists of amendments to update existing references to American National Standards Institute (ANSI) Z136.1 standards from the 1993 edition to the current 2000 edition. Sections 1841 and 8416 are intended to prevent injury to the eyes of construction and tunneling operation workers by forewarning the worker of the laser hazard present. The use of lasers in the 180 nanometer to 1 millimeter wavelength range in construction and tunneling industries has grown significantly over the past decade with the most prevalent use in surveying equipment, tunneling, and drilling equipment and machinery. The physiological effects of unshielded eye exposure to lasers of various wavelengths are well documented in medical literature. The necessity for this rulemaking proposal is substantiated by the accident data reported to staff by the Division of Occupational Safety and Health and more significantly by industry databases such as those compiled by the Rockwell Laser Industries statisticians. The majority of laser injuries result from absent or inappropriate protective eyewear and the unprotected/unaware worker inadvertently staring into the laser beam or receiving laser light through incidental intrusion into the workers line of sight. The updated ANSI standard referenced in the proposal addresses these exposure potentials by incorporating the latest, most recognized, symbols and wording consistent with laser equipment manufacturer recommendations that will adequately warn workers about the laser(s) present in their workplace and instruct them to take appropriate action to protect their eyes.

The proposal also deletes outdated 1993 ANSI language that internally references other laser sign symbol standards that are out of print and references to 1993 edition sections that do not apply to warning signs and labels. Finally, the proposal contains language to clarify to the employer that consistent with section 1801 of the Construction Safety Orders, lasers shall be installed and adjusted as set forth in Section 1801, and not just operated in accordance with that standard.

No written comments have been received, and the proposal is ready for public comment and the Board's consideration.

Chair MacLeod opened the floor for public comment.

There were no public comments on this item.

Mr. Murray asked whether there had been injuries or citations regarding these standards in California. Mr. Manieri responded that the Rockwell data demonstrated that there were more incidents in California than in the Integrated Management Information System (IMIS) database, but he had no explanation for that discrepancy.

Mr. Murray expressed concern that while the standard was outdated, it was not as high a priority as some of the other rulemaking projects that have not yet come before the Board. He went on to state that the Board may have to address these priorities.

2. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Chapter 4, Subchapter 7, Article 121
New Sections 5349, 5350, 5351, 5352, 5353, 5354, and 5355.1 and
Sections 5355, 5356, 5357, and 5358
Snow Avalanche Blasting

Mr. Manieri stated that on March 16, 2006, the Board granted Petition File No. 476 from Mr. C. Duane Niesen, to the extent that the Petitioner's proposal and Board staff's recommendation to develop an updated and comprehensive avalanche control standard be referred to an advisory committee for consideration. On December 1, 2005, the Division of Occupational Safety and Health (Division) convened a ski industry outreach meeting in Truckee, California, in anticipation of a possible future advisory committee being convened by Board staff. The outreach meeting was preceded by a November visit to Sugar Bowl Ski Resort by Board staff to evaluate the petition and California ski industry avalanche control practices. The outreach meeting was chaired by Board staff and included the Petitioner and representatives from the Ski Industry Association, the Division, and the offices of State Senator Dave Cox (R-Fair Oaks) and Assemblyman Tim Leslie (R-Tahoe City). At that time it was determined that many of those in attendance would be willing to serve on the Board Staff's advisory committee on this issue. Advisory committee meetings were held on May 16 and May 31, 2006. The proposal is the result of on-site evaluations and deliberations with stakeholders, including various subject matter experts and the Division from November of 2005 through December of 2006, and staff's investigation of avalanche control methods in the US, Canada and Europe.

The proposal addresses Mr. Niesen's proposed amendments to Sections 5357 and 5358. Highlights of the proposal include: 1) a comprehensive vertical standard for avalanche blasting which takes into account the unique working conditions and hazards faced by avalanche blasters; 2) consolidation of blasting standards found elsewhere in Title 8 that are relevant to avalanche blasting; and 3) employee training, make up of blasting crews, use and storage of explosives, detonating systems, arming of charges, transportation and the management of misfired explosives.

Staff would like to emphasize that this proposal represents one of the most systematic and comprehensive collaborative efforts of subject matter experts, the California ski industry, the Division, members of the Legislature and the Board, to examine and review avalanche blasting procedures, methods, means and relevant accident/injury data. The objective of the committee meetings was to establish clear, concise standards of performance based on the best available data and the experience of ski resorts and avalanche blasters both inside and outside California.

There have been numerous written comments submitted to the Board, as well as presentations by representatives of the ski industry, and at least one field visit that involved Board staff and a member of the Board. Board staff believes the proposal is ready for the Board's consideration and Public comment.

Chair MacLeod then opened the floor for public comment.

Bob Roberts, the Executive Director of the California Ski Industry Association (CSIA), stated that the weather on the mountains is the controlling environmental factor for avalanche blasters. The training standards for avalanche blasters are very strict and rigorous and the blasters are committed to safety. The genesis of this petition was not in a board room or in a management session, but rather with the people who do the work. They formed the committee and brought the issue to management's attention. Work on this petition and the subsequent rulemaking proposal has been ongoing for almost three years, trying to build a set of standards that are effective and building upon the tradition of safety in the industry. Employees are driving this process; they are the ones that have been actively engaged.

It is not unusual to get four or five feet of snow over a four- or five-day period in California. As recently as last December, Tahoe received more than ten feet of snow over the Christmas holiday period. The CSIA has a commitment to its employees, but it also has a charge for public safety. In 1982, Alpine Meadows was subjected to a storm that lasted for days and ended up taking out the entire building in which the avalanche teams worked and portions of a lodge. This storm closed off the area for over a week before people could be permitted back into that area.

Almost all of the ski resorts in California are in Forest Service land, which means that the Forest Service takes an overview of the avalanche blasting practices. All of the major resorts that handle the explosives have annual operating plans including explosive dimensions that must be approved by the Forest Service. The Forest Service has been very effective in helping the industry be responsible for safety. This proposal has come out of a long tradition of collaboration and it is not a new idea. It is a result of 50 years of experience in this industry.

Jeff Goldstone is the Pro Patrol and Snow Safety Director at Alpine Meadows Ski Area, and he also does avalanche control work for CalTrans and Placer County. Winter storms frequently produce large amounts of precipitation, accompanied by high winds, which lead to ideal avalanche conditions requiring the use of military weapons, AvaLauncher systems, and hand charging.

Explosives have been used at Alpine Meadows for more than 40 years. In that time, there have been more than 300,000 initiations for avalanche control without incident. In the past, several large avalanches have occurred, resulting in fatalities at Alpine. On March 2, 1976, three people were killed in a close-control avalanche in the Beaverville area. On March 31, 1982, seven people were killed in another close-control avalanche. Three of these people were employees. This was a catastrophic accident that destroyed an employee building, damaged the lodge, and buried the parking lot under ten to 15 feet of debris. The severity of the avalanche problem is large, and it is essential that the industry does all it can to promote employee safety.

Mr. Goldstone was a member of the advisory committee for this proposal and believes that the proposal as written takes great steps in ensuring employee safety. He is concerned, however, with the Division's reluctance to support certain new sections of the proposal. Recently, the Division has redefined existing Title 8 standards, which has made Mr. Goldstone and his employees less safe. Training and historical procedures have proven safe. The proposed standards will allow the avalanche blasters to continue these procedures which have been time-tested for over 45 years.

Mr. Goldstone is concerned about the possibility of having to arm explosives on the ridge-tops above starting zones in strong winds, cold temperatures, and poor visibility. This is far less safe than arming explosives in an arming room, which offers a controlled environment indoors, where the safety and quality control are much better than on an exposed ridge. Use of an arming room at the bottom of the mountain not only increases the quality of the explosives armed, but also reduces the number of employees exposed.

The Division currently does not allow transporting armed explosives on the chair lifts, thus requiring all arming to be performed at the top of the lift. Using Alpine as an example, this results in all the blasting teams having to arm simultaneously in a single location, exposing the entire crew to the arming process. Use of an arming room at the bottom of the mountain in conjunction with the ability to transport armed explosives on the ski lift will expose only two employees who will accomplish the arming, thus offering a safer environment for employees.

The Division requires that any misfire encountered by a blaster be deployed immediately. This would most likely happen in the starting zones of avalanche paths, which are extremely steep terrain. Slopes of 45° to 60° are not uncommon. Consequently, the blaster has to return to the blast area to retrieve the misfire after the required wait-time has elapsed. This puts the blaster in unnecessary jeopardy due to the risk inherent in entering steep avalanche terrain. In addition, the explosive charge may be virtually impossible to recover if a second explosive causes an avalanche that buries the first explosive. The proposed standard would allow the blaster to immediately disarm the misfire and avoid retrieval in avalanche terrain.

The explosives training program at Alpine Meadows focuses on employee safety along with avalanche control and the use of explosives in compliance with CalOSHA standards. Alpine has trained its employees extensively in the use of explosives since the early 1960s, and there has not been a single injury or death related to the use of explosives in that time. Mr. Goldstone is the designated blaster in charge of 30 licensed blasters; it is his job to ensure that this employee safety record is maintained. Avalanche blasting is unique and requires unique procedures. The proposed standards will greatly improve worker safety. They also will indirectly improve public safety. Mr. Goldstone has been performing avalanche blasting operations with some of his employees for over 20 years. These people are his friends and his family. His only concern is their safety.

Ms. Arioto asked Mr. Goldstone what the chances were of armed charges being detonated from either electricity or physical impact while blasters are riding on the ski lifts. Mr. Goldstone responded that, in his opinion, the chances are low. When the blasters are riding on the ski lift with the charges in an armed configuration, the blasting caps are inside the charges, and therefore cushioned by the charge itself. The other method is that the blaster would have to carry all the caps together, which would provide more exposure to impact. He stated that he is not an expert on static electricity, but in 20 years of doing this work, he has never seen a charge detonated from static electricity.

Ms. Arioto then asked Mr. Goldstone to elaborate on what he meant by “low.” Mr. Goldstone responded that the chances are practically nonexistent.

Dr. Frisch asked Mr. Goldstone about the differences in avalanche control practices among Alpine Meadows, CalTrans, and Placer County and the process followed regarding pre-arming. Dr Frisch asked whether all three organizations, prior to the Division’s reinterpretation of the standards, followed the practice described in the proposal in which an arming facility at the bottom of the hill or distant from the detonation point is used, or if there were variations. Mr. Goldstone responded that CalTrans uses the AvaLauncher system in which a launching mechanism is taken to the site and the charges are armed immediately before firing the projectile. Placer County works with hand charges and the AvaLauncher. Prior to the Division’s reinterpretation, hand charges were pre-armed and taken to the site.

Dr. Frisch then stated that he made a site visit with Hans Boersma of the Board staff to see the actual conditions in which the work was performed. He asked Mr. Goldstone to describe the working environment in which the hand charges are being used, and the situations in which the blasters find themselves when they are using hand charges. Mr. Goldstone responded that the conditions vary greatly, depending on the weather. He stated that quite often when the blasters are using hand charges, they are doing so during or right after significant storms. Winds are relatively high; snowfall can be very heavy at times; and the blasters are trying to perform these tasks on very steep terrain in rain, sleet, or snow.

Chairman MacLeod asked Mr. Goldstone to respond to the comment that safety fusing should not be used in avalanche blasting, but that if it is used, the charge should be double-capped. Mr. Goldstone stated that all hand charges at Alpine Meadows are single-capped, which simply means that a single cap-and-fuse assembly is used. Double-capping is to use two cap-and-fuse assemblies and puncture the charge twice, with two completely separate initiation assemblies in the charge. Then, both need to be lighted. Double-capping is problematic in that the blasters are required to handle double the number of caps, and lighting two caps takes longer than lighting one. Mr. Goldstone expressed his belief that the “dud” rate is very low, and that double-capping does not affect it one way or the other.

Chair MacLeod then asked Mr. Goldstone to respond to the comment that safety fusing should not be used. Mr. Goldstone responded that he has been using safety fuses during his entire career and has never had a problem with them. They have been very reliable, and misfires do not happen very often. When a misfire does occur, another charge will be thrown onto the slope. It is preferable to land the second charge next to the first and detonate it that way, but that is not always possible. The second charge will go off, creating the avalanche, and the charge that was a misfire is taken down the slope in a very large amount of snow. The blasters will then search for the misfired charge and try to find it, but it is sometimes physically impossible to do so due to the amount of snow involved in the avalanche.

Ms. Arioto asked whether double-capped charges would eliminate misfires. Mr. Goldstone responded that he did not think that misfires would be eliminated, but the possibility of a misfire might be reduced.

Chair MacLeod asked Mr. Goldstone’s perspective on the proposed 30-minute wait time before attempting to retrieve a misfire as opposed to the one hour wait-time required in Title 8. Mr. Goldstone responded that he believed that the wait-time prescribed in Title 8 had once been 30 minutes but had been changed to one hour.

Lel Tone is a licensed blaster. She has been working as a Pro Patroller at Squaw Valley for the last 12 years performing avalanche control. In recent years, she has become increasingly involved in the training of new employees and was a part of the advisory committee in Truckee last year. She stated that she was speaking on behalf of 52 men and women working in the Squaw Valley Ski Patrol to express their thoughts and feelings on the proposed standards. They agree with the proposed standard set forth by the advisory committee and the Board. The proposed changes will allow them to perform their job duties safely, smoothly, and most importantly, efficiently, as they have done for over 50 years at Squaw Valley. She has always felt that the procedures were uncomplicated and thus, safe. The proposed changes would make training new employees more manageable and consistent with the practices of the last 50 years. Without the proposed changes and complying with the Division’s current interpretations of the standards, it would in fact expose avalanche technicians to more risk. Avalanche technicians are exposed to adverse and extreme weather for long periods of time. The changes set forth by the advisory committee are necessary to clarify the practical procedures and to help perpetuate an impeccable safety record.

Chair MacLeod asked Ms. Tone to elaborate on her statement that the Division’s “redefinition” of the standards creates more risk and makes her job more complicated. Ms. Tone responded that she was referring primarily to the arming of the charge at the last possible moment, which would be extremely unsafe, given the extreme conditions that often exist at the top of the ridge, as opposed to a controlled environment such as an arming room.

C. Duane Niesen is the author of the petition and a consultant to the California Ski Industry Association. Prior to his retirement on December 9, 2003, he was a California state employee for 44-and-a-half-years, 30 for the Division. Mr. Niesen's association with avalanche control began in 1974. At that time, there was considerable concern because there had been a fatal accident at the end of 1973. He was impressed from the beginning by several things that set avalanche controllers apart from other explosives users. They do not do the job for the money, which is not adequate compensation for what they do, but because they are dedicated, like the mountains, love to ski, and believe in making slopes safe not only for themselves but also for the skiing public. They are also highly trained in a very focused explosive operation. They are continually updated through their organizations and their employers in methods and procedures to make their process safer and more efficient. Avalanche control takes place in a very unique environment. The avalanche technicians are out there to make the slopes safe. They have to go out early in the morning, sometimes when the storm is not yet over with high winds, blowing snow, and subfreezing temperatures.

Mr. Niesen commended Dr. Frisch for going out on the mountain to witness the actual conditions. "There is nothing like being there to understand the conditions." For this reason, avalanche control has always been given special exceptions to traditional explosives use by the safety orders. They are not the only industry that has been given these exceptions because of the unique nature of the application of the explosives in their particular industry. The oil drilling profession is allowed to transport completely armed perforating guns on trucks over the road because of the unique nature of their need. The geophysical exploration industry is allowed certain exceptions, in that they may leave charges unattended for up to a month or two at a time before a firing crew comes back through because of the nature of their particular needs and the work that they do.

Avalanche controllers have been given exceptions also for at least 30 years, as long as Title 8 has been in existence. One of those exceptions was a 15-minute waiting period after a suspected misfire. That was California's initial waiting period, as opposed to 60 minutes for the rest of the world. They are allowed to use dropped fuses, which means that they can light the fuse first and then place the charge. No one else is allowed to do that except them. Other explosives users are forbidden to place the charge after the fuse is lit—they must place the charge before lighting the fuse. Avalanche controllers also are allowed a shorter fuse. During the 70s and 80s in California, they used a 70-second fuse, whereas everyone else had to use three feet (approximately 120 seconds). They currently use a 90-second fuse, which is about 2.25 feet long. These exceptions have been developed over the past 50 years or so in order to make the operations safer and more efficient.

One thing that is necessary for the safety of the employee and the public in an avalanche control operation is the physical integrity of the charge. Therefore, it has been traditionally part of the system used for the last 50 years to prepare the charges in the best possible place, such as an arming room, which is a safe, dry place. In an arming room the assembly of the detonator, the fuse, and the cartridge explosives can be made as tight as possible so it does not come apart when it is thrown. If it comes apart, it will result in a misfire. Where the charge is prepared is important.

Arguments against this proposal have included objections to the misfire procedure. One of the commenters stated that California forbids relights, which is incorrect. The current Title 8 standard allows relights as one way to handle a misfire; the other is to disarm a misfire. The new standard proposes a method that has been discussed by many different organizations to reduce the hazard of handling misfires and not leave unfired explosives on the slope where they may be recovered by tourists, children, or suspected terrorists. These particular exceptions have been followed by avalanche controllers and have always been allowed, or tolerated, by the Division because Title 8 allows for the use of primers. Primers are allowed to be carried

manually in bags, which is what avalanche controllers do. Since Mr. Niesen's retirement in 2003, the Division has reinterpreted the definition of a primer. They have declared that the primers used by avalanche controllers are no longer primers, although they meet the Title 8 definition. Therefore, they cannot be transported manually, and therein lies the reason for this petition.

The petition has grown since being submitted, from a simple petition to a detailed vertical standard. In fact, it is one of the three most detailed vertical standards for avalanche control in the United States, after Washington and Colorado. The proposed standard describes the process in far greater detail than ever before. Most of the provisions that were hashed out in the advisory committee meetings provide increased and added safety to the employees, better efficiency to the process, and better protection to the public. These particular practices are not new. They have been developed over 50 years by committees and by ski patrol associations. The procedures proposed are traditional procedures developed by the users themselves for their own safety and efficiency. The procedures have been discussed at meetings in Salt Lake City, Reno, Vancouver, Las Vegas, and other locations in the Western United States. The Division, the industry, and ski resorts all had input. These procedures were developed from those meetings by general consensus of the users. The consensus, in which the Division had input, promulgated a 90-second fuse, a 30-second waiting period after a suspected misfire, and the necessity not to double-cap, as it added complexity without a marked additional benefit.

The Division has raised objections in three main areas. The first is the hazard of static electricity, which is present everywhere and theoretically, can present a potential hazard in explosive use, most especially in electric initiation. The fuse initiation exclusively used by avalanche controllers is the least sensitive initiation system to detonate explosives. After the Mammoth fatality in December 1973, the U.S. Forest Service requested a study from the Naval Weapons Center at China Lake, California, to look into the causes of the accident. One of the main investigations was into the sensitivity of explosives to static electricity charges. A close reading of that report will reveal that they could not get a detonator to detonate using static electricity. They simulated a charge based on the amount of static electricity that a human body would generate under the conditions encountered by avalanche controllers and applied it directly to the powder train of the fuse. Even then, they could not get a reliable detonation; sometimes they did and sometimes they did not. It has never been recreated in a laboratory the way it occurs in nature. There are a couple of other factors in that accident that have never been investigated. One is that a fuse under high humidity conditions becomes a better conductor and therefore could dissipate the static charge between the cap itself and the fuse so it does not generate a spark. Another thing that has not been studied is whether the explosive material itself, usually an emulsion, can dissipate the electrical potential between the fuse with the powder train and the cap shell, which means that static discharge is even more unlikely. A third item is that out of more than three million charges deployed in the Western United States in avalanche control over the last 50 years, there has not been one accidental detonation proven to have been caused by static electricity.

The Division's second main concern is the transport of armed charges from the arming station to the deployment site. This has traditionally been done in a backpack, sometimes in a Snow Cat, sometimes on a ski lift, which is dedicated to the transport of explosives. The public and/or extraneous employees are forbidden from these modes of transport, and this restriction is included in the proposed standard. The alternative to transporting the detonators separate from the charges means that there are naked detonators in the backpack. It can be argued that they are more sensitive that way than if encased in the explosive charge itself. They are more likely to be detonated by impact if they are transported en masse in a backpack. In 50 years and three million detonations, there has never been an accidental detonation during the transport of an

armed charge. The charges are treated with extreme care by the avalanche controllers, because they realize the potential for detonation. Therefore, the chance of impact is lessened by the handling and the careful

packing. The proposed standard includes for the first time, standards for the bag in which the charges are packed.

The third area of concern for the Division is transport, which has been traditionally by ski lift. This has been allowed and mentioned in the U.S. Forest Service handbook of 1978, which is the “original Bible” of avalanche control. It was also present in 1976 in the oral exam of CalOSHA’s blaster’s examination for avalanche controllers. The charges are sometimes deployed from the ski lift because it is the closest an avalanche controller can safely get to the avalanche chute. When a lift is used for the transport of explosives, no extraneous personnel or members of the public are allowed on that lift, and that provision is included in the proposed standard. There is inherent danger, but it is minimized by the standard and by the current practice.

Based on its safety record, this industry has shown its dedication, training, and care for safety. Over 30 years, Mr. Niesen has administered approximately 2,500 blasters’ exams to avalanche controllers, in addition to others. Avalanche controllers traditionally had the highest average scores on the written tests of any other class of blasters. They have more focus and more extensive training through their associations because of the unique nature of their use of explosives. They literally cannot afford to make mistakes. They have developed the procedures that have been incorporated into the proposed, extensively detailed vertical standard from the ground up. The petition was, in part, a reaction to the reinterpretation of the standards by the Division. Standards must be interpreted in the same way by both the regulator and the regulated. Mr. Niesen closed by urging the Board to adopt the standard as proposed.

Mr. Murray thanked Mr. Niesen for his expertise and asked whether Mr. Niesen was aware of any state or federal agency that prohibits arming the charges at the bottom of the slope outside of British Columbia. Mr. Niesen responded that arming at the bottom of the slope is the extreme, and that almost every state allows it. British Columbia will allow it if an application for provisional exception is filed. It is not the standard practice (in British Columbia), but it is allowed where conditions warrant. Colorado has a very strict standard because of the fatality in Montana in 1996. Although he did not know the exact wording of the Colorado standard, he believes that it is allowed, as it is a standard practice in the Western United States and Canada.

Ms. Arioto asked about the difference between the 90-second and the 120-second fuse. Mr. Niesen responded that, in his opinion, the length of the fuse is important because some people believe it allows more time to make or correct mistakes. California originally allowed 70 seconds, which was shorter than what was allowed anywhere else in the world, and probably too short. Colorado argued for 120 seconds because that allowed a little more time, but most ski people argued against it because the longer the fuse, the more likely it will tangle either with other fuses or around someone’s hands. Mr. Niesen emphasized that the people who do this are experts at what they do, and that 90 seconds is plenty of time to determine whether the fuse is lit and if not, to handle the charge in the safest possible manner, which is outlined in the proposed standard. The 120-second fuse was a reaction to the fatal accident in Montana in 1996, although the longer fuse most likely would not have saved the victim in that incident.

Mr. Rank asked whether Mr. Niesen had ever dealt with the Institute of Makers of Explosives (IME) during his 30-year career. Mr. Niesen responded in the affirmative. Mr. Rank then stated that the IME recommended that hand-thrown avalanche charges be double-capped if a hand charge is used, and he asked Mr. Niesen whether he concurred with that position. Mr. Niesen responded that he did not necessarily

agree with that position. The IME is an association of manufacturers of explosives, and they are the most conservative organization connected with explosives that exists. The IME always supports the absolutely

safest method, as they see it. They are concerned primarily not with safety but with liability protection, in Mr. Niesen's opinion. Double-capping has, by certain studies, reduced but not eliminated, the number of misfires. However, having two fuses complicates deployment and complicates the operation because there are two pull-wires, and it punctures the cartridge twice, which is not a good idea. The IME is on the extreme conservative end of the spectrum, has been for some time and probably will continue to be.

Mr. Rank then quoted an IME statement regarding "the inherent unreliability of fuse cap initiation," and asked for Mr. Niesen's reaction to those "strong words." Mr. Niesen responded that the safety-fuse method was invented in 1831 and is still in use. Since 1831, two other forms have moved to the forefront. One is electric initiation, which has its own problems, such as static electricity, and the other is non-electric shock tube initiation, which is used to detonate approximately 85% of all the explosives used in the United States. The non-electric shock tube method is used primarily by the mining industry, with some use by the construction industry. The so-called safety fuse method has certain physical potential hazards, because it is subject to water, tainting, and physical damage. There are provisions in the proposed standard that prescribe how to keep the powder dry, to keep the fuse dry, and to protect the fuse from physical damage to mitigate those complications. There is no other viable detonation system for use in avalanche control as it is practiced today. None has ever been invented, and a charge cannot be thrown with "a couple hundred feet of electrical wire hanging on it," or with a non-electric shock tube. Safety fuse is the last, best hope. The explosives manufacturing industry would like to get rid of fuse due to mishandling, but it still has a practical use. The mining industry still uses it, and the avalanche control industry uses it almost exclusively. The avalanche control industry handles safety fuses with a great deal of respect, and it is a necessary part of their operations. They do everything possible to minimize the "inherent" dangers.

Chair MacLeod commented that the IME indicated that it would recommend to its members that if users do not follow manufacturers' instructions, the members refuse to supply the materials. Mr. Niesen responded that there is no fuse manufacturer in the United States over which the IME has any influence. Most of the manufacture of fuses is handled by offshore companies. The IME wants to do away with the use of fuses because it is an archaic system, in the IME's opinion. However, there really is not any practical, safe way of initiating avalanche control charges other than the use of safety fuse.

Chair MacLeod stated that there was another comment from a gentleman in Colorado who expressed concern that this product would not be available, that there are only two or three suppliers, and the IME seems to have control over them. Mr. Niesen responded that he did not think that the IME was international, and that there are no fuse manufacturers in the United States. There is a Canadian company that strongly recommends a shunted fuse and cap assembly, primarily because they manufacture and sell them. It would be nice if someone were to develop a reasonably priced, foolproof detonation system, but no one ever has.

Mr. Rank asked Mr. Niesen whether he supported the position that two capped fuses take too long. There has been comment that double-capping takes extra time. Mr. Niesen responded that double-capping complicates the operation and takes more time.

Mr. Rank asked how much time it takes to pull the first fuse and check to see that it is lit, and Mr. Niesen responded that it was probably less than five seconds. Mr. Rank then extrapolated that it would take ten seconds, at the most, to light and check two fuses. Mr. Niesen responded that that was correct, but that would leave less time to throw the charge. The problem is when the blaster lights the fuse and cannot tell

for sure, by smoke and smell, whether it is lit, then he or she must decide very quickly what to do next. It is hoped that he or she will not "stand around and fiddle with it," which is probably what happened in the

Montana accident. When the first charge is pulled and it is obviously lit, it is probably a matter of two seconds to pull both fuses. However, if it is unclear whether the first fuse is lit, the blaster must decide whether or not to pull the second charge within a fraction of a second. Based on his studies of the matter, Mr. Niesen does not believe that it reduces the percentage of misfires to the extent that it would be worth the extra complication.

Dr. Frisch stated that, actually having stood on the top of the hill in a 45 mph wind and trying to pull the charge, it is not as easy as it may sound. He further stated that if the charge is lit, it is obvious. However, if it is not lit properly, it is not quite so clear. The doubt is there, because the fuse should be lit; everything you are physically seeing tells you it should be working, and yet you may not have the evidence. That leads to wondering whether the wind is blowing the wrong way so the blaster cannot smell the smoke; did he or she choose the wrong piece of ground against which to test it. That is what struck Dr. Frisch as the trade-off—while double capping may ensure that the charge does go off, the onus is put back on the individual who is trying to “fiddle” with the charge in the wind and wearing cumbersome gloves. That creates a more stressful situation for the blaster, as he or she has to get rid of the charge in a timely manner. There is documentation that makes a good argument either way, but it strikes Dr. Frisch that a lot of the letters and other comments received really do not reflect the work environment where avalanche control is performed.

Mr. Niesen responded that he did not believe that there were any letters from anyone who had actually performed the operation. He stated that many of the practices, such as the fuse length and double capping, were “foisted” on avalanche controllers by regulators who did not understand the conditions and had never actually performed the work themselves. Through the International Society of Explosives Engineers’ (ISEE) avalanche control subcommittee meetings, there was agreement based on conditions which have been developed from scratch and have been successful. There has not been a reportable avalanche control accident using hand charges in California since 1974 due to the procedures developed by avalanche controllers.

Dr. Frisch asked for Mr. Niesen’s reaction to this statement by the IME: “Should the proposal go forward, California may be the only jurisdiction in the United States with regulations that allow the dangerous practice of making primers in advance. The state should not permit making primers at the bottom of the slope in the proposed regulation.” Mr. Niesen responded that that was the IME’s stance, but almost every avalanche control operation in any state that he had ever had association with does charge in advance of deployment. One of the reasons is that, no matter where the charge is armed, the avalanche control location is going to be a distance from that location, perhaps a hundred feet, perhaps a mile. Therefore, the charges will have to be transported regardless of where they are armed. That is the traditional way to do it because it is the best way, rather than attempting to arm the charges in blizzard conditions.

Dr. Frisch then asked for Mr. Niesen’s response to a comment from John Watson, General Manager of Dyno Nobel America, regarding disarming suspected misfires, which is permitted in the proposed standard. Mr. Watson states in his letter that “this increases the risk of injury to unacceptable levels and should never be attempted by blasters.” Dr. Frisch stated that while he understood the principle, having seen the process, it did not strike him as a particularly safe activity.

Mr. Niesen responded that Dr. Frisch was correct, but that misfires occur occasionally with any kind of explosive use. They must be disarmed somehow, whether they occur in a mine, on a construction site, or anywhere else. Under the current definition in Title 8, anything that goes wrong is considered a misfire,

including not knowing whether the fuse is lit. If the charge does not explode as planned, it is defined as a misfire.

The procedure outlined in the proposal is far more stringent than currently in Title 8, because it actually proposes a method for handling misfires. Title 8 currently provides three options: 1) retrieve and relight, which was supposed to be removed in the 1986 through 2003 revisions of the blasting orders; 2) retrieve and disarm; or 3) log it and return to find it. That is not detailed enough. Avalanche blasters do not like the idea of relights, because there is an inherent hazard in that attempting to light something that has already been burned is not going to be very successful. They do not like the “retrieve and disarm” method either, but there is a way to disarm the charge before it is deployed by skilled people with the equipment in an easily accessible location. That is to cut the fuse off before it has burned more than four or five seconds and get it away from the explosive and the detonator entirely.

The Division’s recommendation is that if the charge is not visibly lit, it must be thrown away. That increases the chances of misfires being left for someone else, such as a member of the public, to find. A skilled person has plenty of time from the moment he or she determines that the fuse is not lighting to cut the fuse off in order to get the burning fuse away from the detonator and the charge. The proposal contains a consensus from the users, the regulators, and previous input. The objections of the IME and the Division appear to be based on traditional blasting practices, which do not apply directly to all aspects of avalanche control.

Chair MacLeod continued to quote from the IME’s letter that “there is no such thing as a suspected misfire. Allowing the notion of a suspected misfire to exist in regulation would be a step backwards for explosive safety.” He asked for Mr. Niesen’s response to that comment. Mr. Niesen responded that, technically, he agreed with the IME. “Suspected misfire” has been the language in Title 8 for at least 35 years; it is in the standards now. Some of the terminology that is in Title 8 is less than desirable and should be removed or changed, such as “relights.” The term “suspected misfire” is negated by the definition of a misfire that is currently in Title 8, which is any failure of the explosive to detonate as planned. Therefore, if the blaster believes something is going wrong, that automatically, by definition, is a misfire. Mr. Niesen would like to remove the word “suspected” from the terminology.

Chair MacLeod then mentioned the criteria for an “avalanche blasting pack,” which is stated in the proposal to be “constructed of water-resistant, non-sparking and non-conductive material or treated to meet these requirements.” He asked if such a pack was available for purchase. Mr. Niesen responded that one probably would not find anything called an “avalanche blasting pack,” because this is the first time that such a pack has been standardized, but packs or bags that are constructed of material that meet the standard are available. One of the concerns, with all kinds of clothing, is the generation of static electricity because of dissimilar materials. Nylon can be treated to reduce the possibility of static electricity. Packs and materials that meet the standard are available at REI.

Chair MacLeod commented that he was sure that water-resistant packs were readily available, but he had no knowledge of non-sparking or non-conductive material. Mr. Niesen responded that “non-sparking” is a poor term; a better one would be “static resistant material,” one that does not lend itself to generate static. There is also a spray product that reduces static cling; it is a known technology.

Upon request from the Board members, Chair MacLeod called a five-minute recess.

Chair MacLeod then continued the Public Hearing, and asked for further comment on the avalanche blasting proposal.

Larry Heywood has provided comments regarding this proposal twice before. In September 2006, he presented a short PowerPoint presentation on the history of avalanche control. A number of the comments received have come from explosives manufacturers, the IME, or the national office of the ISEE. Following an accident in Montana in the mid-90s, a task force was convened by the national office of the ISEE. Because of the controversy of avalanche blasting, the recent death and injury, and the problem with the availability and quality of product, the industry was in turmoil. Mr. Heywood read a portion of the comment letter submitted by Jeffrey Dean, Executive Director and General Counsel of the ISEE, regarding the ISEE Avalanche Control Task Force.

Beginning in the summer of 2000, seeing that there were inconsistencies and safety issues in avalanche control blasting, ISEE organized an avalanche control task force and sponsored a series of meetings of stakeholders who had an interest in the avalanche control field. These meetings brought together a group of interested parties to discuss procedures, regulations, and safety issues regarding avalanche blasting and included representatives from the ISEE, the IME technical committee, various state and federal explosive regulators, western state ski areas, and manufacturers of products used for avalanche control blasting.

Mr. Heywood commented that the technical directors from the IME, Dyno-Nobel, and Boston Powers were all present at that meeting; Dyno-Nobel and Boston Powers are the two main suppliers of avalanche blasting products.

The following understandings came out of the task force meeting:

1. Snow avalanche blasting is conducted to ensure public safety by a variety of both private and public entities. Explosives have long been used to lessen avalanche risk on public highways, rail lines, construction sites, and ski areas. The standard explosive charge includes a two- to six-pound high explosive such as a cast booster or high strength gelatin dynamite. The detonation system is made up of a cap safety fuse pull wire igniter. This has been the charge since the 1950s.
2. The avalanche blasting is performed under unique weather and environmental conditions. Personnel are often exposed to severe weather and wind as well as avalanche hazards. The work also often requires extreme physical exertion.
3. Over the years, fuse length has varied from one to three feet, with a common practice over the previous 20 years being a timed 90-second fuse length. Experience has shown this length to be the safest and most practical for this specialized form of blasting, allowing an adequate safety margin and at the same time, lessens the worker's exposures to weather and the environment.
4. The avalanche blasting safety record was good. In an estimated two to three million individual hand charges deployed between the 50s and 2001, there were only three recorded incidents resulting in serious injury or death.

Although the ISEE Board has not adopted or endorsed these recommendations on behalf of the Association, a consensus was achieved by the task force and the following recommendations for acceptable procedures would be made:

1. No relights;
2. Users have no more than 20 seconds to disarm a charge or release it; and
3. Double-capping may continue to be used to avoid misfires.

Mr. Heywood admitted that he was taking some of the above quotes out of context and there was some criticism of some of the procedures, but he indicated that he would address those.

The three main areas of contention, primarily by the Division and some of the public comments, are pre-arming the explosive charges and the subsequent transporting them by a variety of methods, disarming suspected misfires, and using a 90-second fuse. There are also direct statements and inferences in the Division's and public comments regarding the accidents, suggesting that they somehow pertain to the issues at hand. This is not the case.

There have been three historical accidents with two deaths and two serious injuries. The two incidents in the 1970s were both associated with the application of the pull wire igniter and the subsequent delay in deploying the charge, with the very unexpected and very unusual circumstance that, when the pull-wire igniter was applied, it fired. The victims in these two accidents put the pull wire on and waited; because of bad weather conditions they did not notice that the explosives had fired and was burning in their hands. Following this, the industry's remedy was to get into position where the charge is to be deployed, put the pull wire igniter on, pull it, and deploy the charge immediately. A 1996 incident occurred when two patrollers were given the task of throwing hand charges on a nearby slope for avalanche control in fairly fierce weather. The patroller holding the charge thought that the charge had not lit on activating the pull wire igniter. She attempted to relight it, which was allowed at the time. She pulled the pull wire off, probably attempting to clip it and put a pull wire on; she did this twice. Her partner told her that the charge was lit. However, for some reason, she did not respond. In any event, she continued to mess around with the charge until it exploded in her hand.

This 1996 incident really threw the industry into turmoil. There already had been availability and product issues due to manufacturers' concerns. Federal OSHA investigated this, and there was a resulting lawsuit. The immediate remedy was that the industry did away with relights. A so-called "20-second rule" was implemented, which is included in the proposal. The 20-second rule states that once the blaster is in deployment position and applies the pull wire igniter, he or she then has 20 seconds to get as far away from the charge as possible. Blasters develop an internal timing mechanism or they count the seconds to ensure that they are adhering to this 20-second rule. As described above, the accidents had nothing to do with pre-arming and/or transportation, nor did they have anything to do with a 90-second fuse or attempting to disarm the charge.

Mr. Heywood believed that, in the previous comments, the severity of the weather had been understated. He stated that the 45 mph winds experienced by Dr. Frisch were light for this type of work. Winds of 65 mph, 75 mph, and 85 mph are more common, and it is often snowing so hard that breathing is difficult. Visibility is extremely limited, and the gloves necessary to prevent frostbite are cumbersome. Movement becomes clumsy, and the blaster's world becomes very small and focused.

As to pre-arming, the Division's response states, "The Division continues to believe that this practice is inadvisable and should be not allowed. Other ski areas generally prohibit this practice, and California should also." This is absolutely inaccurate. This practice is, by statute, allowed in the states of Washington and Colorado. It is in place at every major ski area with avalanche

problems in those two states, as well as the states that do not have state statutes, such as Wyoming, Montana, Oregon, New Mexico, and Arizona. Every one of these states pre-arms their charges. Mr. Heywood estimated that at least 90% of the ski areas in the United States pre-arm their charges at

some point and transport the explosives someplace else. It is the general and accepted practice in the United States.

The issue, therefore, is whether or not the pre-arming and subsequent transport of the charges is safe. However, there are a lot of other hazards to which the employees are exposed. Just the week prior to the hearing, a 20-year patrol veteran, while performing avalanche control and after deploying a hand charge with no avalanche results, crossed the slope and was caught in an avalanche. He rode for 1,000 feet on very firm bed surface, hit a tree, and was currently in the hospital with a serious head injury and a mangled leg. This is just one example of the hazards of avalanches, steep terrain, cliffs, and the fierce weather mentioned previously. These hazards are compounded by having to arm the charges on site in these conditions and being exposed to the weather for that much longer, as the Division would prefer. The issue then becomes the quality of the arming when it is performed out in the field as opposed to in a controlled environment, such as an arming room.

The second issue is the disarming of a suspected misfire. There is no doubt that the public and the Division comments have come out very strongly against this practice. However, it comes from not looking at the unique conditions. In the discussions of the disarming procedure in the written comments submitted, no one mentions the 20-second rule, which is required. Most of the ski areas with which Mr. Heywood is familiar require their employees to practice the process of lighting and disarming the charge so that it can be done within the required 20-second window.

There are additional safety concerns regarding the possibility of explosives left on the mountain. This is a major concern of the avalanche control industry. To have ten, fifteen, or twenty unaccounted-for explosives on the hill is a big problem for the avalanche controllers. There is no telling who will get all of them. It is well-known what adolescent boys would like to do with a bomb. There are terrorist concerns, and there is the possibility of vandalism. The avalanche control industry cannot afford an accident like that, either from the standpoint of property damage or someone being injured. There is also the employee safety issue. There is the need to retrieve the unexploded charges. The proposal states that the charge does not have to be thrown into the avalanche path; it could be set aside for a later retrieval. This is not as simple as it sounds, because the wind could be blowing 60 mph and it could be snowing hard enough to cause breathing difficulty. If the charge is set down on the ridge-top, there is the possibility that it will not be found again.

The final concern voiced in the public comments is about the 90-second fuse. This has been and continues to be the most commonly used fuse length in the United States. Because of the 20-second rule, the charge does not remain in the blaster's hands 20 seconds after the fuse is lit. The fuse is lit, the charge is thrown, and the blaster still has a full 70 seconds in which to get away from the charge. This is allowed by statute in both Washington and, historically, California.

Mr. Heywood noted that most of the written comments came from either general blasters or academicians. None of them came from experienced avalanche blasters. It was interesting to note that they came from such notorious avalanche areas as Oxford, Maryland; Quebec; Washington, DC; Dunbar, Pennsylvania; and Cleveland, Ohio. No reputable avalanche blasters submitted public

comments against the proposed standards. In spite of the Division's serious campaign to find public, written support for its opposition to certain aspects of the proposed standards, it has not occurred. The reason is obvious—the avalanche blasting community believes that these procedures are appropriate.

There is the threat from both the IME and Dyno-Nobel that they will withhold product from avalanche blasters. Dyno-Nobel currently is the single largest supplier of avalanche blasting products in the United States. They sell to all of the ski areas that do exactly what is detailed in the proposal. This is an idle threat coming from someone who is detached from the rest of the company. Dyno-Nobel was at the ISEE's Avalanche Control Task Force meeting and said that these procedures were acceptable. There was a suggestion from one of the commenters to "use another method." However, the ski industry in North America has performed exhaustive searches for other detonation methods. They have financially sponsored research and development projects, and nothing has been proven to be at least as reliable as currently-used methods. Cap and fuse is simple. It meets the KISS guidelines; it has proven very reliable for them; and it is "the only game in town."

Static electricity was another concern of those who submitted written comments. There is a procedure for dealing with static electricity. Avalanche control is never performed if there are thunderclouds. If there is the sense of static electricity, as one might feel with carpets, the blaster would ground himself or herself, abandon his or her pack, and return for it later. That is written into every avalanche control plan of which Mr. Heywood is aware.

There have been issues with product quality, but it seems that those are past. Many of the explosives components are made in the United States. Nearly all of the fuse is made in South America. At this time, there are no product quality or availability issues. There is a suggestion from the owner of C.I.L. O'Ryan, who makes pre-manufactured fuses that avalanche blasters should all switch to his product. Mr. Heywood believes that statement is very self-serving, and pre-manufactured fuses have not proven any more reliable than cap and fuse assemblies put together manually by the avalanche controllers.

Mr. Heywood then addressed the issue of double-capping. He stated that although it may sound simple, it is a very complicated procedure to perform little things in bad weather. Double-capping does not significantly reduce the number of "duds."

Mr. Heywood closed by strongly urging the Board to adopt the proposal. He stated that it is supported by every type of labor group in the ski industry. The Association of Professional Patrollers and the Association of Western Ski Area Professional Ski Patrol are the closest things to labor groups that exist. They have endorsed the proposed standards, as have the American Avalanche Association. They are safe procedures. The passage of this proposal will provide safe procedures that will be well defined and will alleviate the confusion caused by the Division's currently unclear interpretation of the existing standard.

Ms. Arioto asked why the avalanche blasters are up on the ridge while the wind is blowing at hurricane force and the snow is blinding. Mr. Heywood responded that, in many cases, the avalanches that need to be controlled can run into the base area ski areas or onto highways or into facilities. They must be controlled as early as possible. In addition, while conditions may be that

bad up at the ridge-top, there could actually be reasonable skiing conditions just one-half mile down from the ridge-top. The avalanches start up at the top and run down to the lower slopes.

Ms. Arioto then asked whether there would be a problem if the charges were double capped during the pre-arming procedure. Mr. Heywood responded that it was not an issue of the pre-arming, but rather of the application of the pull-wire igniter at the deployment site.

Dr. Frisch asked whether there were other regulatory bodies that would have to have input should an arming room or shed be constructed closer to the blasting sites, and whether such approval would be likely. Mr. Heywood responded that it was likely that county and other local building authorities would want input into the construction of such a facility, and that obtaining such approval and permits was notoriously difficult.

Chair MacLeod pointed out that the deadline for public comment was 5:00 p.m. on the date of the Public Hearing, and thus, no one was operating in bad faith by submitting written comments at the last minute. Staff must respond to each and every comment, and those responses must be submitted at the Office of Administrative Law. In terms of extending the comment period in order to provide stakeholders an opportunity to respond to some of the written comments that had been received, the Board would consider such an extension.

Dr. Frisch responded that he had asked Mr. Beales about that possibility during the break. It was Mr. Beales' recommendation that it was up to the Board to decide on a course of action that would be most helpful to making a final decision on the proposal. Dr. Frisch also thanked Mr. Heywood and Sugarbowl for hosting him on his site visit.

Chair MacLeod pointed out that, despite the section of their letter quoted by Mr. Heywood, the ISEE had come out in opposition to the standard, stating that "it is inconsistent with the NFPA and the IME," in spite of the fact that they had an Avalanche Control Task Force. He asked for Mr. Heywood's opinion to that opposition.

Mr. Heywood responded that the man who authored that letter was a lawyer, the legal counsel of the ISEE, and he responded as a lawyer would to require adherence to any possible regulation that may exist in spite of the historical, time-tested procedures currently in use. Mr. Heywood went on to state that the author of that letter led the discussion, in part, during the Avalanche Control Task Force. There was a consensus of that group, with no objection from him or the ISEE or the IME or the suppliers. It was Mr. Heywood's guess that they had changed their position.

Stan Rhyu of the Division stated that he worked on the 2003 revision of the Explosives Safety Orders. He was also the blasting program administrator and he has performed avalanche control blasting from a helicopter. He stated that the Explosives Safety Orders are different from other safety orders. Most of the time, in case of an accident, it is difficult to know exactly what went wrong; it can only be surmised. Despite the years of experience and the training of any of the avalanche control technicians, accidents are not predictable. The Explosives Safety Orders try to ensure that those accidents do not happen by separating ignition sources and explosives. Black powder is the most unreliable explosive because it is extremely sensitive. It is not permitted by the Explosives Safety Orders. Simply because there have been so few accidents from the procedures used by avalanche controllers is not an excuse to violate the Explosives Safety Orders.

Dr. Frisch asked Mr. Rhyu for his definition of the term "ignition source," and for an explanation of his concept of separating the ignition source from the explosive. Mr. Rhyu responded that an ignition source could be many things, such as friction or impact. Dr. Frisch then asked whether an unlit fuse was an ignition source. Mr. Rhyu responded that static could ignite an unlit fuse.

Steve Hart, the Principal Engineer for the Division's Mining and Tunneling Unit, stated that the people who perform avalanche control blasting in California perform a very important function. They work under extreme circumstances. Most people would not care to work under those conditions as part of their jobs. He commended them for their hard work on the proposal and expressed appreciation for the work that they do. His introduction to avalanche blasting occurred when he did his first inspection after Mr. Niesen retired. He was immediately struck by the nonchalance with which explosives are handled by avalanche blasters. Mr. Hart convened a meeting and asked Mr. Niesen to accompany him despite the fact that he was retired, in order to help people understand that they were not following the existing standards. He had spoken with Mr. Niesen previously and had been reassured that every time the avalanche blasters took an exam, Mr. Niesen would repeat the basic guidelines that charges were not to be pre-armed, etc. Mr. Hart disputed the contention that the Division had changed its interpretation of the existing standards. He stated that he concurs with most of what appears in the proposal, and he commended Hans Boersma for the research he performed to align the proposal with similar standards in other states.

Mr. Hart stated that the Division is prepared to accept the proposal with only two reservations, although the written comments submitted by others have expressed more. Some people are not happy with California's move to a 30-minute waiting period to retrieve a misfire. It started out at 15 minutes, then it went to one hour, and finally everyone compromised on 30 minutes. Mr. Hart stated that it was an agonizing decision on the part of the Division, but the ski industry convinced them that it was necessary to retrieve the charges as quickly as possible before they are covered by snow. Therefore, the 30-minute waiting period was a balance between public safety and employee safety.

The 90-second fuse is another compromise. Most of the written comments oppose it. In Canada, for example, the Ski Avalanche Association uses two minute fuses. In fact, Canada uses several procedures that California does not but that Mr. Hart feels should be used. In this case, the former fuse length was 70 seconds. The Division felt that 90 seconds was certainly better than 70 seconds. Most of those at the Division feel that a two-minute fuse is better than 90 seconds, simply because of the unreliability of the fuse cap system.

Mr. Hart pointed out that Mammoth Mountain in Southern California had two fatalities fairly close together. Those fatalities are listed in Addendum 1 of the Division's comments. As a result of those fatalities, Mammoth adopted several procedures, which Mr. Hart feels have been helpful to them. They do not pre-arm the charges until they get to the point of deployment. The cap fuse and the explosive are always transported separately. The Division believes that is the safest way to do things. That was a voluntary change made by Mammoth Mountain. Mr. Hart asked them about the severe weather conditions, and their response was that is the method on which they train their employees, who do not seem to have any trouble doing it. Another thing done at Mammoth is double-capping. The Division believes that double-capping is the way to prevent misfires being on the ski slope where anyone can ski over them. The third thing done at Mammoth is to insert a static shunt into all of their fuse cap assemblies to prevent static electricity.

Mr. Hart stated that the Division has a number of valid objections, which are detailed in their written comments. He also pointed out that a number of comments had been received by people in the explosives industry. If these people are to be discredited, then there are a lot of blasting experts who do not know what they are doing. Mr. Hart does not believe that. The IME states that avalanche blasting can be performed safely in Canada, Colorado, and other areas by following their guidelines.

The IME deals with many different types of blasting, including ice blasting. There is ample evidence to support the fact that avalanche blasters are not the only people who have to go out in adverse conditions. The procedures should not be made less safe as a result of that. The IME stated, "Reasons presented to the IME for these changes were determined to be convenience and comfort related only, two things that should never come at a cost to safety." That has been the basic battle throughout the life of this proposal. The Division contends that arming at the bottom of the hill and disarming a charge that may not be lit are not safe. They cause the snow avalanche industry to be less safe. To date, Mr. Hart has found no valid reason for authorizing these changes.

Mr. Hart referred to the 1978 Helms Tunnel disaster, in which an AvaLauncher was pre-armed. When the safety pin was removed, the charge blew up in the middle of the four blasters, and all four were killed. Mr. Hart urged the Board to keep in mind that caps might go off, but when a cap goes off it is a little bit bigger than a firecracker. However, when a cap that is inserted into an explosive charge goes off, everybody dies. The University of Denver in Colorado performed a study to determine how many explosives needed to go off in order to knock over a tower or break the cable. The answer was that 20 pounds of explosives would normally cause that to happen. The proposal calls for the blasters to be able to carry 90 pounds of armed explosives. If a tower goes down, everybody on that lift is going to go down with it. The larger ski resorts routinely have 15 or 20 blasting teams on the lift at one time. This means that if a tower goes down, there is the potential of losing 15 or 20 people as opposed to one or two.

The Division does not object to pre-arming when it is performed in a place where the wind is not blowing that is away from everybody and up near the top. The Division understands that not everyone is trained the way Mammoth Mountain's employees are, and the Division has no wish to dictate. However, the Division does believe that arming next to the cafeteria or in close proximity to the grooming crews is inappropriate. The cardinal rule of blasting is to expose as few people as possible to the hazards at any one time. The current concept, as mentioned by Mr. Heywood, of having 20 people pre-arming all at once in a little shack at the top of the hill is not safe either. The Division is confident that the ski industry will develop better methods if pre-arming at the bottom of the hill is prohibited. Mr. Hart firmly believes that there are many solutions to the problem that have not yet been addressed.

The mechanics of the safety fuse and the reason that the Division objects to safety fuse as a delivery mechanism are discussed in Addendum 2 to the Division's written comments. Mr. Hart urged the Board to review that document carefully. The safety fuse is the oldest delivery system, and there are many variations that could be used. The manufacturers have been made to sound as if they are overly cautious. However, their legal departments have had to pay out hundreds of thousands of dollars because people are injured and killed by safety fuse accidents that occur when everybody is doing everything right, let alone pre-arming. There is the argument that the state has allowed pre-arming of fuses and a primer make-up house for many years. These provisions are currently in Title 8, but it was originally started during the California Water Project. It was used by a number of tunnels in which archaic initiation systems were used, but that rule is no longer needed.

Static electricity comes from many sources. In the middle of the fuse is black powder, and a spark will detonate black powder instantly. It is very sensitive to sparks. That is one of the Division's chief concerns about carrying of armed explosives.

The Division believes that three of the seven deaths listed in their written comments were due to attempts to disarm explosives. Once the cord is pulled, the blaster should get rid of the charge as quickly as possible and not mess around with it.

Mr. Hart wanted the Board to know what the explosives industry had to say about the practices listed in the proposal. He specifically asked them to comment. However, he did not ask them to support the Division's position or any specific item, he just told them that the Standards Board wanted to hear from them. He is dismayed that the ski industry had discredited every organization other than themselves, including the Division, and he hopes that sound reason will prevail.

Mr. Murray asked Mr. Hart how many states had a prohibition against arming at the bottom of the hill. Mr. Hart responded that Washington State has allowed it for some time and that they have not had any accidents. He also stated that he has spoken to people in Colorado. He has been told two different things. He cannot honestly say whether or not Colorado allows pre-arming. He stated that Gary Cruller, who runs the British Columbia program, said that if he ever saw anybody transporting live or armed charges by ski lift, he would shut the ski area down. Mr. Hart stated that Montana, which lost a young girl due to an explosion, has no avalanche blasting standards at all. He also knows that federal OSHA states that the California proposal is more effective than the federal standard, but there is no federal standard for avalanche blasting. However, the federal standards never allow long-distance transportation of armed charges, nor do they allow disassembly of armed charges before the appropriate waiting period for a misfire. Federal OSHA has disputed California's tunnel standards for many years, stating that those standards should be changed.

Dr. Frisch expressed his appreciation for the work that both Mr. Hart and Mr. Welsh had put into this proposal. He mentioned that Mammoth had made a presentation to the Board in September 2006, in which they stated that they use Snow Cats as opposed to ski lifts to get to the deployment sites in the lower areas. In the higher areas they use howitzers. Dr. Frisch asked whether arming the charges in the Snow Cat made any difference.

Mr. Hart confirmed that Mammoth does use Snow Cats to get to many areas. They do pre-arm at times, but they always separate the explosives from the caps during transport until they arrive at the destination where they put on their skis. The Division does not object to their arming inside a Snow Cat. The Division does not object to arming in a shack pulled on a sled, because the very next thing done is to start skiing along the avalanche control route.

Dr. Frisch asked Mr. Hart to clarify his references to arming in the cafeteria, because in Dr. Frisch's experience at Sugarbowl, the arming room was a great distance from the cafeteria and other public areas. Mr. Hart responded that he had mentioned that because it was one of the alternatives stated during the advisory committee. He does not want anybody arming their charges at the bottom of the hill, and that was the point he was trying to make.

Chair MacLeod asked whether the avalanche controllers had to adhere to the IME distance requirements. Mr. Hart responded that there were requirements that they must perform the arming a specified distance from occupied buildings. However, the point was made in the advisory committee that at the time the pre-arming is performed, around 4:00 a.m., those buildings are not occupied and are, therefore, safe. He has never been in favor of that practice.

Chair MacLeod then presented a hypothetical situation in which the technicians were pre-arming in the vicinity of a building that would be used by the public during normal operating hours, but unoccupied during the time that the technicians were working. He asked whether that practice would meet the standard. Mr. Hart responded that there are still a lot of people working at that time of day. Such people are the cook preparing soup for the day at 3:00 a.m. and the grooming crews. He stated that the goal is to minimize the number of people exposed to the hazard. He is not comfortable with allowing that practice.

Dr. Frisch quoted the Division's proposed language in its written comments that, "Arming may be performed at the bottom of the slope only under the following circumstances:...(b) where the employer can demonstrate that there is greater risk of accidental detonation if charges are armed at the top of the slope." He then asked Mr. Hart what circumstances an employer might use to justify such a practice.

Mr. Welsh responded by quoting a portion of the language in the proposal that, "charges shall be armed at the point of deployment or in a safe, dry location as close to the deployment area as possible." He stated that that language emphasizes the idea of delaying arming as long as possible, and he went on to quote the proposed standard that, "if no such facility exists near the deployment area, then charges may be armed at the bottom of the slope in compliance with Section 5355.1." Mr. Welsh stated that that language appeared to leave a large gap, and that in the formulation stated in the proposal there is nothing more than chance to dictate whether or not there is an appropriate facility for arming. The Division's proposed language came about as an attempt to fill that gap. He stated that the goal was to delay the arming as long as possible, and the only justification for not delaying the arming would be due to competing safety concerns. An employer should be able to articulate definitive safety reasons for arming at the bottom of the slope. Each employer has a different configuration, and each has their own little variations based on those configurations. The employers are certainly in a position to know where, for safety reasons, it makes sense to arm the charges. Mr. Welsh expressed confidence that if the employers were to think through the safety reasons for their decision and develop a plan, and if that plan were based on sound reasoning, the Division would be likely to go along with it.

Ms. Arioto asked Mr. Welsh whether there were any data on accidental detonation. Mr. Welsh responded that the Division had submitted everything it had and that one of the most difficult things about this proposal was that the known incidents appear to be few and far between, though severe; so they had to go back to basic safety practices for handling explosives because those are the ones that are known to work.

Ms. Arioto then asked whether there were data on static electricity directly causing detonation. Mr. Hart responded that he had performed extensive research on that, and most of the work done by the U.S. Bureau of Mines back in the 1920s and 1930s, when a safety fuse was commonly used, has now been discarded. Mr. Hart stated that he had about five reports and none of them said that static electricity would set off a fuse. Recently, he asked the manufacturer of safety fuse assemblies for

Canada for data on the use of a static shunt in a three-foot fuse to prevent a static electricity detonation. The basic response was that the information was proprietary, but that they do use it and think it is necessary. Mr. Hart apologized for being unable to provide statistical data on that issue.

Chair MacLeod asked Mr. Hart to clarify if their biggest problems with the proposal as currently written have to do with the pre-arming and transport procedure, as well as the disarming procedure.

Mr. Hart responded that that was correct. Mr. Welsh clarified further that it was not the pre-arming and transporting, it was the unfettered discretion to pre-arm and transport. There is a lot of discretion provided in the standard and the question is whether that discretion should be limited. Mr. Hart stated further that the Division would not object to an arming shack at the top of the ridge. Such a structure was also supported by both the IME and the ISEE.

There was no further public comment on this item.

Chair MacLeod commended the staff for the considerable amount of work that had gone into the proposal. He thanked those who participated in the advisory committee process. He stated that, although it did not sound like it, there was a lot of consensus on most of the proposal. No one has a problem with the majority of the proposal, it is just about a half dozen issues on which there is disagreement. He then asked the Board members for their opinions on extending the comment period in order to provide stakeholders an opportunity to respond to the comments that had been submitted.

Dr. Frisch then asked for Mr. Beales' opinion. Mr. Beales responded that the end of the comment period was noticed in writing for 5:00 p.m. on the date of the hearing. The public hearing is intended to be forum for information as opposed to a forum for debate with rebuttal. The Board nevertheless may feel it is advisable to extend the comment period to make the record complete and get all the information necessary to make a decision on the proposal.

Chair MacLeod then proposed an extension of a week. The Board agreed. The comment deadline was extended to 5:00 p.m. on March 22, 2007.

ADJOURNMENT

With no further comments, Chair MacLeod adjourned the Public Hearing at 1:25 p.m..

III. BUSINESS MEETING

Chair MacLeod indicated that this portion of the Board's meeting is closed to comments from the public, except when specifically requested by the Board. The purpose of this Business Meeting is to allow the Board to conduct its monthly business.

A. PROPOSED SAFETY ORDERS FOR ADOPTION

1. TITLE 8:
 - CONSTRUCTION SAFETY ORDERS**
Chapter 4, Subchapter 4, Article 4
Sections 1529, 1532, 1532.1, and 1535
 - GENERAL INDUSTRY SAFETY ORDERS**
Chapter 4, Subchapter 7, Article 107, Section 5144
Article 109, Sections 5190 and 5198
Article 110, Sections 5200, 5202, 5207, 5208, 5210, 5211, 5212,
5213, 5214, 5217, 5218, and 5220
 - SHIP BUILDING, SHIP REPAIRING, AND SHIP BREAKING
SAFETY ORDERS**

Chapter 4, Subchapter 18, Article 4
Section 8358
Assigned Protection Factors for Respirators
(Heard at the July 20, 2006, Public Hearing)

Mr. Mitchell stated that the proposal was initiated by Board staff in response to a final rule issued by federal OSHA on August 24, 2006, that promulgates standards addressing assigned protection factors and maximum use concentrations for respirators in 29 Code of Federal Regulations, Parts 1910, 1915, and 1926. Federal OSHA revised its existing Respiratory Protection Standard to specify assigned protection factors for different classes of respirators, which are used to determine the maximum use concentration for a particular respirator and contaminant. Multiplying the specified protection factor of a respirator by a contaminant's permissible exposure limit provides the maximum use concentration. The final rule supersedes most of the existing assigned protection factors in the substance specific standards and harmonizes the protection factors of respirators used for these substances with those for general respirator use.

The Board proposes to adopt standards which are the same as the federal standards except for editorial and format differences. The Board is relying on the explanation of the provisions of the federal standards in the Federal Register as the justification for the Board's proposed rulemaking action.

Except for editorial changes, the proposal before the Board was the same as that heard at the January 18, 2007, Public Hearing. Staff concluded that the proposed revisions were necessary to ensure the State standards were at least as effective as the counterpart federal standards. The proposal was ready for the Board's adoption.

MOTION

A motion was made by Dr. Frisch and seconded by Mr. Murray to adopt the proposed safety order.

Ms. Arioto asked whether or not Mr. Mitchell had any comment regarding the letter from the University of California Berkeley written by Dr. Mark Nicas. Mr. Mitchell responded that Dr. Nicas' objections to the proposal were based on his perception that it would reduce the amount of protection provided by the substance-specific standards, but that was incorrect. Federal OSHA stated in the preamble to their final rule that their best estimate was that these levels would prevent approximately 1,000 deaths from cancer and other health concerns, and it would provide increased protection to approximately 30,000 respirator users.

Chair MacLeod asked for a roll call.

ROLL CALL VOTE

All Board members present voted aye. The motion passed.

Chairman MacLeod announced the next item on the agenda for adoption.

2. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Chapter 4, Subchapter 7, Article 5
Section 3291 and
Article 6
Sections 3292, 3295, and 3296
Load Sustaining Devices Used in Window Cleaning and

Building Maintenance Operations
(Heard at the November 16, 2006, Public Hearing)

Mr. Manieri stated that at the November 16, 2006, Public Hearing the Board was briefed on a proposal that was in response to Petition File No. 421, from Mr. John Pearce representing Pearce Building Products, pertaining to Title 8 General Industry, Window Cleaning/Exterior Building Standards. Mr. Pearce suggested the Board amend Title 8 to address issues such as but not limited to the procedures, methods and testing time intervals for exterior building maintenance/window cleaning load sustaining devices. Per the Board's proposed Decision granting the petitioner's request, staff convened an advisory committee to consider the petitioner's suggested amendments and a Division of Occupational Safety and Health Form 9 request that addressed Section 3291(f) regarding roof tieback anchor strength for consistency with Title 8 standards and the assembled weight and maximum size of portable roof davits.

The proposal reflected the consensus of exterior building maintenance/window cleaning stakeholders and resulted in proposed amendments to Articles 5 and 6 addressing the issues raised by Petition File No. 421 and the Division's Form 9 request. Finally, in accordance with AB 3000, exempting the Board from the building standard requirements contained in the Labor Code, staff proposed deletion of unnecessary Title 24 references.

There were no oral or written comments from the general public. Board dialog at the November 16, 2006, public Hearing resulted in a few comments from members of the Board, to which Staff responded in the Final Statement of Reason. None of the Board's comments resulted in modifications to the proposal.

The Board staff recommended that the Board adopt the proposed amendments to Sections 3291, 3292, 3295 and 3296 of the General Industry Safety Orders as originally proposed.

MOTION

A motion was made by Board Member Murray and seconded by Dr. Frisch to adopt the proposed safety order.

Chair MacLeod asked for a roll call.

ROLL CALL VOTE

All Board members present voted aye. The motion passed.

Chairman MacLeod announced the next item on the agenda for adoption.

B. PROPOSED VARIANCE DECISIONS FOR ADOPTION

1. Consent Calendar

Mr. Beales stated that all of the proposed variance decisions for adoption involved conveyances of various sorts. One of them, the Headlands Reserve matter, was an inclined elevator, and all of the others were comprised of standard issues previously ruled on by the Board regarding Schindler elevators, Otis Gen 2 elevators, and KONE elevators. The Board was requested to adopt the decisions as proposed.

Dr. Frisch requested that the first item on the consent calendar, Headlands Reserve, LLC, OSHSB File No. 06-V-020 be removed for discussion. He asked that it be deferred until next month's Business Meeting, as he had some concerns about the decision, and he would like to discuss them with staff before adopting the decision.

MOTION

A motion was made by Dr. Frisch and seconded by Mr. Murray to adopt the amended consent calendar.

Chair MacLeod asked for a roll call.

ROLL CALL VOTE

A roll call was taken and all Board members present voted aye. The motion passed.

Mr. Murray asked whether the Headlands Reserve matter could be discussed at this meeting rather than deferring it to the next meeting.

Chair MacLeod responded that staff had another meeting to attend with federal OSHA and in order to give enough time to all of the items on the agenda, he would prefer to defer the discussion to the next Business Meeting.

Dr. Frisch asked whether there was a concern that deferring the discussion would delay the applicant, and Mr. Murray responded that the applicant had been waiting for a decision for some time.

Mr. Beales stated that the relevant staff member might be Mr. Hauptman, who happened to be present at the meeting.

Mr. Murray stated that he would prefer to discuss the decision at the present meeting.

Dr. Frisch stated that he had not seen one of these devices previously, and he had a couple of concerns. His biggest concern was related to access to the inclined stair operated by the device. The description of how the public is prevented from entering the track way in which the device would operate was somewhat unclear to him; it was also unclear whether the device was equipped with some form of cut-off to stop the device's operation should it be obstructed in any way while in operation. His second question related to emergency calls. His reading of the file indicated that the device would be unattended and operated by members of the public, and he asked for clarification regarding specifically how emergency communication from the device was to occur in the event that someone on it was faced with

a situation in which he or she was going to have distress or have a problem with the device while it was being operated.

Mr. Hauptman responded that as far as emergency communication, the applicant was required to have a dedicated phone so that in case of emergency, someone could call the applicant. Dr. Frisch asked whether that was incorporated as part of the standard or whether it was included in the variance decision. Mr. Hauptman responded that it was part of the elevator standard, and it was his understanding that voice communication was required in the event of emergency.

With respect to access by the public, it was Mr. Hauptman's understanding that there were fences on either side of the track, which would prevent the public from gaining access to the actual track barrier. Dr. Frisch asked whether it was a chain link fence or something more substantial. Mr. Hauptman responded that it was a retaining wall on one side, and the applicant was planning to build a fence in addition to the retaining wall so it would be quite high. On the other side it would be a galvanized fence.

Dr. Frisch asked whether those fences were part of the variance decision or covered by standards. Mr. Hauptman responded that it was not included in any standard. Dr. Frisch then asked whether a fence requirement was written into the variance decision, and Mr. Hauptman responded that it was not.

Mr. Murray stated that during the variance hearing, at which he was present, photos were shown to the panel, and that it appeared to be very similar to a BART set up in which there were fences and limited access. Dr. Frisch asked Mr. Murray whether he was comfortable that there was adequate security. Mr. Murray responded in the affirmative.

Dr. Frisch expressed his concern that, because it was technically a cog railway system and not something seen very often in California, it would present an attractive nuisance. It would be the kind of thing on which children would want to play or at which other people would like to take a closer look.

Chair MacLeod stated that he sat on the hearing panel with Mr. Murray, and he had asked the same questions. The applicant responded that there were fences to prevent access.

Mr. Murray stated that access prevention would actually be part of the Electrical Safety Orders, and Mr. Manieri stated that access was addressed in the Findings of Facts section of the proposed variance decision, Paragraph 11, which stated, "The elevator will be installed adjacent to an existing stairway that leads to the beach area. A retaining wall and fence will prohibit unauthorized access by the public into the traveling area and guide rail tracks for the elevator."

Dr. Frisch then asked whether the device had some sort of cut-off device so that it would stop automatically if there was an obstruction on the tracks. Mr. Hauptman responded in the affirmative. He stated that the device stops the elevator if an obstruction is detected.

Chair MacLeod expressed his belief that this was the first such device the Board had encountered, and there was general agreement. Dr. Frisch stated that was part of his

concern, as this type of device is more common internationally. Mr. Hauptman had indicated that there were two operating in the United States.

MOTION

A motion was made by Ms. Arioto and seconded by Mr. Murray to adopt the proposed variance decision.

Chair MacLeod asked for a roll call.

ROLL CALL VOTE

All Board members present voted aye. The motion passed.

Chairman MacLeod announced the next item on the agenda for adoption.

C. OTHER

1. PEL Process Update
Len Welsh, Acting Chief
Division of Occupational Safety and Health

Chair MacLeod stated that Mr. Welsh was originally going to provide this update, but he had had to leave for a previously scheduled meeting with federal OSHA. He stated that Mr. Smith was present and could provide the update, but Chair MacLeod suggested that it be deferred until the next meeting in order to allow staff to attend the federal OSHA meeting. There was general agreement among the Board members.

2. Legislative Update

Mr. Beales stated that after checking two days prior to the meeting, there was no legislative action to report.

3. Update on Elevator Safety Orders

Mr. Umemoto stated that the Notice of Public Hearing, which listed the Elevator Safety Orders for public hearing, had been submitted to both the Director and the Labor and Workforce Development Agency, and staff was expecting to receive it back the following day. It would then be sent to the Office of Administrative Law for publication early the next week. The Notice would be published, mailed, and posted on the website on March 2, and the hearing would take place April 19.

4. Executive Officer's Report

Mr. Umemoto stated that in the interest of time, he would not detail the Calendar of Activities, but rather referred Board members to the copy in their packets. He then went on to summarize the 2006 Year in Review.

Mr. Umemoto stated that staff docketed nine petitions in 2006, which was five fewer than 2005 but the same number as 2004. Standards Board staff had convened five advisory committee meetings in 2006, and the Board adopted 19 rulemaking proposals in 2006, which was three more than 2005. Staff noticed 21 rulemaking proposals, which was four more than 2005, and there was one Emergency Standard adopted in 2006. Staff docketed 210 variances in 2006, 110 more than in 2005. He indicated that Board members should not be alarmed at the 114 variances carried over from 2005 to 2006, as the Board had adopted 54 proposed variance decisions today and 37 in January. Therefore, the number of carry-overs was significantly reduced from that shown in the Board packet. Of the 210 variances docketed in 2006, 198 were elevator-related.

5. Future Agenda Items

Chair MacLeod reiterated that the PEL update would be deferred until the next meeting, and Ms. Arioto asked whether staff would provide an update on pneumatic nailers at the next meeting, as well.

Dr. Frisch repeated his request for an update on heat illness, and Mr. Smith responded that Division staff was preparing a presentation similar to that given the previous year. Mr. Smith also stated that the previous presentation had been given in April. Dr. Frisch asked if the heat illness update could be scheduled for April.

ADJOURNMENT

With no further comments, Chair MacLeod adjourned the Business Meeting at 1:50 p.m.