

Advisory Committee Meeting Minutes
Personal Protective Equipment (PPE) for Firefighters, AB 2146
January 20, 2016

NOTE: Italics are for further clarification, not said during the advisory committee meeting

Call to Order

The meeting was called to order at approximately 9:00 a.m by the Chair, Maryrose Chan, Senior Safety Engineer, Occupational Safety and Health Standards Board (OSHSB). The Chairperson was assisted by Bernie Osburn, Staff Services Analyst.

The Division of Occupational Safety and Health (Division) was represented by Eric Berg, Deputy Chief of Health, Research and Standards Safety Unit; Keummi Park, Senior Safety Engineer, Research and Standards Safety Unit; and Michael Miller, Senior Safety Engineer, Enforcement Unit.

The Chair welcomed attendees and thanked the California Joint Powers Insurance Authority for hosting the meeting, and a special thanks to Bill Taylor (PASMA) for referring the Board to this facility.

The Chair explained that this is the second meeting regarding Article 10.1, Personal Protective Clothing and Equipment for Fire Fighters. The standards in Article 10.1 are currently considered unfunded mandates, which have hampered our ability to update the standards. A regulation is considered a mandate when it requires local government to perform a specific action. Assembly Bill 2146 provided the impetus for the meeting, setting aside the mandate issue.

The Chair briefly reviewed the process of rulemaking and the NFPA standards (please refer to the minutes of the October 22, 23 meeting). The Chair stated that at the last meeting, the necessity to update the standards was established. The purpose of today's meeting is to determine how the standards should read.

The Chair showed a Firefighter Safety video produced by The University of Cincinnati and the Cincinnati Fire Department to communicate the hazards of firefighting.

The Chair stated that at the last meeting the committee reviewed the definitions, and once the language is finalized the definitions that are in the NFPA standards will be deleted from Section 3402 to prevent inconsistency.

For proposed new Section 3402.1 regarding purchase quality standards, which states that purchases made after the effective date shall meet the 2013 NFPA standards. An exception is proposed to be added to state that compliance with the most current NFPA standard will be deemed as meeting the standard. This language is not yet finalized.

The Chair stated that at the last meeting the NFPA 1851 was proposed to be incorporated by reference with a few exceptions. Those exceptions will be discussed when Section 3402.3 is reviewed.

The Chair stated, today, we will be addressing a timing issue of Article 10.1. There is a requirement to retire PPE that is 10 years old from the date of manufacture. The Chair is proposing a three year phase-in period to allow for multiple funding cycles to fund the replacement of PPE and to provide time for the implementation of the standards. As the committee is considering the three year transition period, the committee should also think of what is allowable during the transition period, meaning what level of safety is the committee comfortable in recommending.

The Chair pointed out the issue of having many outdated standards, necessitating that once old equipment is retired and new equipment has been purchased, the standards referring to old equipment will be deleted. The next scheduled standards update, per Assembly Bill 2146 would be sometime in 2019, and at that time we will have to start the rulemaking process again.

The Chair reminded the members that cost of the proposal would need to be assessed. The Chair showed slides containing pictures of equipment related to the implementation of proposed Section 3402.3, the standard that corresponds with NFPA 1851. The Chair asked for volunteers to help with determining the fiscal and economic impact of implementing this rulemaking. She stated that the committee would determine the cost in categories, what is the cost to small, medium and large departments. For example, how many extractors and dryers (for cleaning PPE) are needed by the small, medium and large departments? What is the repair cost for the small, medium, and large departments?

The Chair, gave a special thanks to Ralph Scott of Scott's PPE for the tour of his facility and allowing us to share these photos, which were taken on our visit. (See power point presentation handout).

The Chair asked that the committee to focus their attention on the colored fonts in the proposal, and not review portions from the last meeting already agreed upon. Starting at Section 3401, Application, the Chair stated that proposed subsection (b)(6) concerning the employer's written plan, would be revised to reflect new Section 3402.3, with a note added to direct the employer to Section 3402.3. Subsection (c) regarding Personal Alarms would be moved to Section 3408.

No questions or objections were stated by the committee.

The Chair moved on to Section 3402 regarding Definitions. The Chair stated that “Buddy-Breathing Device” would be removed and that “Drag Rescue Device (DRD)” modified to the NFPA definition will be deleted because these definitions are listed in NFPA 1851 or 1971, which are proposed to be incorporated by reference.

The Chair stated that the “Fire Fighting, Structural” definition is important; because it will be different from the NFPA 1851, since this definition defines the scope of this article.

The Chair stated that the Board received comments regarding the definition “Harmful Exposure” from the City of Sacramento who asked the Board to consider this definition as outlined in Section 5140. The Board will use this definition as it ties into respiratory protection. As for “Primary Eye Protection” if this definition is found in the NFPA, it will be deleted.

No questions or objections were stated by the committee.

The Chair moved on to Section 3402.1 regarding the Purchase Quality Standards and reiterated earlier discussion that new equipment would need to be purchased using the most current NFPA standard. The projected effective date would be July 1, 2017, and that a proposed exception had been added. The language in the exception is not finalized, but the intention is to not penalize employers for buying the most current PPE. This proposed exception would apply to the entire section.

No questions or objections were stated by the committee.

The Chair stated that Section 3402.2, regarding Wildland Fire Fighting, would be covered in a separate meeting.

The Chair moved on to Section 3402.3, regarding Selection, Inspection, and Maintenance, stating this is a new proposed section based on what was discussed during the last meeting. The proposal incorporates NFPA 1851 by reference with a few exceptions. The Chair noted the exceptions are:

- (1) Record keeping, in addition to the recordkeeping requirements listed in NFPA 1851, the proposal will require that the records be retained for three years from the date the equipment is retired and;

- (2) Exception to the requirement to retire PPE 10 years from the manufacture date: Unused or brand new PPE will be subject to advanced inspection and after first failed inspection it must be retired.

The Chair discussed the effective dates of the different Chapters of NFPA 1851 as listed in subsection (c). The Chair stated that these are proposed dates and that the committee members may submit any comments on the dates.

Richard Weise (SAFER) asked how the Chair arrived at the three year retirement date. The Chair responded that she spoke with Jim Evans (Solution Safety) and Kirk Owen (Veridian), and they indicated that in Texas, it took about five years for fire departments to completely implement NFPA 1851. California already has existing requirements, although not as specific as the proposal, and so three years seemed sufficient. Under the existing Injury and Illness Prevention Program, the employers should already be selecting their PPE, and training their employees.

There was further discussions on whether three or five years is needed to phase-in the retirement requirements. The Chair stated that certain requirements should not take that much time to become effective, such as routine cleaning and inspection.

The Chair then asked Mr. Weise if his comment was to change the effective date of the requirement to retire PPE to five years instead of the proposed three years. He stated that he was asking the committee if three years is enough of a transition period.

Jim Evans (Solution Safety) responded that the regulation in Texas did not have a phase in period. Their experience showed that it took about three to five years for complete implementation of NFPA 1851. However, within a year the departments were moving in that direction.

The Chair interjected that in California, Article 10.1 is under the Cal/OSHA program as opposed to the Texas program, which is under the Fire Commissioner. The Fire Commissioner would work with the fire departments and help them to comply and develop their program. However, in California, if the proposal did not specify an effective date in subsection (c), Cal/OSHA could start issuing citations the first quarter after the standard is approved by OAL. The enforcement of Article 10.1 is under the Cal/OSHA program, therefore subject to the fines and appeals process of the Cal/OSHA program.

A committee member asked if the three years is a grace period. The Chair responded that the proposal would provide employers three years to retire their old PPE. After the three years, citations could be issued for having old equipment.

The Chair stated that she is seeking input with regards to the effective dates. Which portion of the NFPA 1851 should be effective immediately or at a later date? The Chair stated that in her opinion, some of these requirements should be effective immediately. For example, firefighters should already be performing routine cleaning and inspecting their PPE.

Kurt Owens stated he agreed that Chapter 5 (Selection) can be effective sooner than five years, but even routine cleaning would take time to implement. However, the three year period should be enough time for Departments to develop Standard Operating Procedures and do some training.

Tom Foley (TenCate Protective Fabrics) asked, does the three year phase-in period impact the retirement phase of this standard? In other words if the equipment passes advance inspection can it still be used for 10 years? *The three year phase in period is simply a start date as to when the standard will take effect or be enforced.* The chair responded that the proposed exception to retiring equipment older than 10 years retirement applies only to brand new or unused equipment and the PPE, which shall be subjected to the advance inspection prior to use and if it fails advanced inspection, it will be retired immediately.

Jim Evans (Solution Safety) asked, what constitutes a failed advance inspection? What conditions are considered catastrophic failures? What are considered minor flaws? The Chair responded that the committee needs to set the criteria.

Mike Molloy (Anaheim Fire and Rescue) suggested, for the retirement of PPE, the committee could use the date equipment is put into service and would not have to decide what elements constitute inspection failure.

A committee member asked Mike Molloy (Anaheim Fire and Rescue) if his comment is to remove the exception and just use the 10 year retirement requirement from the date it was placed in service.

Mike Molloy (Anaheim Fire and Rescue) stated further clarification is still needed, since it appears that you could have equipment sit on a shelf for five years and if it passes advanced inspection which is not really defined, it can be used for another 10 years.

The Chair asked the committee if they have equipment that is older than 10 years old. A representative from a small fire department responded that they have about 7-8 brand new pairs of PPE, which would need to be thrown away. They are a small department with a small budget and it doesn't make sense to throw them away.

A member stated that if the turnouts are 8 years old when placed in service, the PPE would potentially be 18 years old before it is retired.

Kurt Owen, stated this is the same discussion that the NFPA had 15 years ago. The discussion led to the realization that the burden was put on the fire departments to track the put into service date. However, you run into problems with the transfer of equipment from one person to the next. It was decided that the only hard and fast date is the manufacture date. What our department did was put new gear into service and we placed our gear that was five or six years old on the shelf as reserved gear.

Defining advance inspection is tricky since the advance inspection is to decide what to repair. It seems best to set guidelines according to the age of the gear and the cost. Is it advisable to repair a nine year old garment or is it better to buy a new one?

Jim Evans (Solution Safety) commented that if you put into service a nine year old garment and use it for 10 years, making the garment in service for 19 years. Technologies change and then you can have two different levels of protection in the exact same issue. There was an incident like that in Houston.

The Chair stated there is consensus to remove the proposed exception that permits the use of brand new turnouts that are 10 years old. The question now is whether the committee recommends retiring PPE using the manufacture date, or date put into service. The problem with using in service date is the equipment can be stored for a long time. The committee chose to use the manufacture date, and encourage people to not store up equipment.

The Chair asked if it difficult to obtain PPE and multiple responses indicated that equipment can be easily purchased and obtained.

The way government budgeting works, there may be a year when you have surplus money to buy equipment. Kirk Owen (Veridian) stated when that happened, he bought new gear and issued that to the firefighter and the old gear was then used as reserve or it could be used for training to get the most use out of the PPE.

Kevin White (California Professional Firefighters) spoke in favor of 10 years from the manufacture date, because of the technology advances, and with the rotation of NFPA standards, you should only be one standard behind when you retire gear after the 10 years.

Vicky Wells (City and County of San Francisco) stated we could use 10 years from manufacture date or five years from date put into service; whichever is greater and leave it to the departments

to track the date they put gear into service. She stated it may be difficult, but it could help smaller departments who have bought gear in better budget years to use that gear.

Chris Anaya (Former Firefighter) commented that the 10 year period is very important; since the standards are revised every five years we could end up three standards behind. Our department had two sets of turn-outs, and used the extra sets as backup.

The Chair posed the 10 year manufacture date or the five year put in service option to the committee and asked for more comments.

A comment was made from a representative of LA County Fire Department; he stated that if we followed Vicky's suggestion, we are then allowing PPE that could be 15 years old, and three revisions of NFPA as opposed to two revisions. We can have people working side by side with different levels of protection.

Mike Miller (Division), stated that if we use the 10 years or five years whichever is greater, that should occur only once and then sunset. This would allow departments, mostly smaller ones to get gear, get their budgets in order, and then go to the 10 years from manufacture date.

Vicky Wells (City and County of San Francisco) suggested getting input from smaller fire departments, since they will be the most impacted, before we add a sunset day.

There was still disagreement with Ms. Wells's suggestion. Chris Anaya (Former Firefighter) asked if equipment that is 12 years old is put on the shelf, can you still use it for 5 years. Vicky Wells replied yes but it will still have to pass advanced inspection. The other option is to place a restriction, such as a maximum 15 years from the date of manufacture. Another suggestion is to set a cap on the length of time new gear could be kept in storage.

Kirk Owen (Veridian) suggested keeping the 10 years from the date of manufacture and providing fire department time to transition using the effective date. This way, you are not deviating from the NFPA and are providing time for the departments to comply.

The Chair moved on to Section 3403 Helmet, Eye and Face Protection. Under proposed subsection §3402.3(b), there would be a three year phase-in period to retire helmets. She stated that the State allows very old helmets be in service. The existing standard currently permits the use of helmets meeting the NFPA 1972 – 1985 Edition. Given that the employers have three years to retire old helmets, does the committee want these very old helmets to remain in use during the transition period. The Chair asked how old is too old for helmets?

Vicky Wells (City and County of San Francisco) stated that San Francisco uses older helmets and are very committed to using their helmets.

Mike Miller (Division) stated that there are the new style and the old style leather helmets that San Francisco uses and they will never want to give those up.

The Chair stated that, per the proposed standard, use of older helmets would not be permissible beyond a specified date, but that there would be a variance process, in which an employer could apply to use leather helmets, by showing how they provide equivalent safety to the Title 8 standards.

The Chair explained that the way the current standards read, arguably you can potentially have helmets that were 25 to 28 years old in use during the transition period. The Chair asked if the committee should allow 15 year old helmet to be used during the transition period.

Alvin Brewer (Los Angeles County Fire Department), stated that we should go with 10 years of use before retirement, because helmets may look safe but without a good way to test them we cannot be sure. The stickers fall off of helmets, so there is not real way to know how old they actually are and that we could have a 30 year old helmet in use, so there should be no phase-in period for helmets. Mike Molloy (Anaheim Fire and Rescue) agreed with Alvin Brewer.

Shaun Russell (Phenix Technologies) commented that there are departments that do not purchase US OSHA helmets. He stated that there are two standards for helmets. The US OSHA (1977 standards) allows for shell, retention system, and chin strap. Then the NFPA 1972 (1985) edition for fire helmets and now we have NFPA 1971, which is the entire ensemble.

The Chair asked Mr. Russell for a copy of the standards that he was referring to as US OSHA. Mr. Russell was referring to the standard that was published by the U. S. Department of Commerce, Model Performance Criteria for Structural Fire Fighters' Helmets, dated August, 1977. *According to existing 3403(b)(2), this type of helmet is permitted for use if it was ordered or purchased or placed in service prior to January 1, 1988.*

According to Mr. Russell, there are approximately 15,000 helmets in service that are non-NFPA approved. These non-NFPA approved helmets are labeled with the date it was manufactured. The Chair proposed that the non NFPA helmets should also be retired 10 years from the date of manufacture.

There was a comment that the NFPA 1971 would provide equivalent safety to the federal standards. *CFR 1910.156(e)(5)(i) applies to private fire brigade. A helmet that complies with NFPA 1971 would exceed the requirements of the standards referenced in 1910.156(e)(5)(i).*

Jim Evans (Solution Safety) stated that in 2001, helmets were the first equipment submitted for retirement and Dallas, TX was looking at 1,200 helmets in the first month to come out of service. They worked with the commission to first inspect the helmets, and were given a small grace period. The bad ones were retired immediately. But with the rule as we are discussing today, to take helmets out of service immediately would not work, we should at least give a phase-in period of one year.

Shaun Russell (Phenix Technologies) commented that there is no real difference between NFPA or OSHA helmets. The materials are the same; it is the components that go on them that make them NFPA or OSHA helmets. The problem with a one-year grace period is that we could have helmets currently purchased in 2016 or 2017, which could be OSHA compliant and worn by thousands of firefighters and in one year would be out of compliance per Cal/OSHA.

A comment was made that manufacturers relied on NFPA to provide retirement dates, and the committee should rely on the manufacture date. The Chair clarified that the proposal is not going beyond the 10 year retirement date, but in the case of helmets, permitting the use of a helmet made to the 1985 edition gives her pause.

The Chair stated the standards Shaun Russell was referring to is the US Department of Commerce standard and Fed OSHA allows this type of helmet to be used in private fire brigades. This same standard is cited in 3403(b)(2) and currently California allows them to be used, so what the committee needs to determine is, are these helmets too old for use?

Mike Echan (Fountain Valley Fire) agrees with a one-year phase-in and also asked the manufacturer if one-year was going to be problem for production.

Angel Sanchez (Phenix Technologies) stated that ramping up production would not be a problem if they are made aware of the one-year phase in period.

The Chair stated she needed further review of the Commerce standards, NFPA and these comments, and would come back with a proposal concerning the phase-in time for helmets.

A comment was made that the helmets are ancient in design, not age, to which the Chair responded that design would be considered after the review of the Commerce standards and the NFPA 1971. There are two issues, outdated design and length of time in service, possibly 25 to 28 years old.

The Chair moved on to subsection (c) Eye and Face Protection, and discussed replacing existing subsection (c)(1) with new language and deleting subsection (c)(2). The Chair clarified that

proposed subsection (c)(2) would be deleted and replaced with (c)(4). Subsection (c)(4) was modified by adding the missing word “required”.

Mike Molloy (Anaheim Fire and Rescue) asked regarding (c)(4), if a helmet was required to have a pull down face shield or are goggles the same thing?

The Chair responded that an employee not wearing SCBA should have primary eye protection per the definition in Section 3402.

Vicky Wells (City and County of San Francisco) asked if we are requiring eye and face protection if they are not wearing SCBA, does that mean you would need both a face shield and eye protection?

The Chair asked if only eye protection was used when not wearing the SCBA? Proposed subsection (c)(4) was amended stating primary eye protection shall be required unless wearing a SCBA.

A member commented the language in (c)(1) stating “injurious light rays which are inherent in work or environment” does not apply to firefighters.

Proposed subsection (c)(1) was modified by removing “or injurious light rays”.

Vicky Wells (County and City of San Francisco) stated she was not clear if we are requiring only eye protection or face and eye protection when they remove the SCBA.

The Chair responded that the proposal states that eye protection is required, when the SCBA is not in use. The risk assessment, Subsection (c)(1), helps the employer decide if there is an exposure which requires face and eye protection or just eye protection.

The committee discussed when you may need both eye and face protection and only eye protection. For extrication, you may need eye and face protection. For IDLH environment, you would need to wear an SCBA. For overhaul, you may need to wear just eye protection. *Proposed Section 3409 requires that firefighters use SCBA during overhaul operations, unless the employer can demonstrate that a lesser level of protection is appropriate.*

Steve Weinstein (Honeywell) stated that it is problematic legally when you use the language and/or. In this case, it is meant to allow you to use both when needed.

The Chair moved to Section 3404 regarding Ear and Neck Protection and discussed with the committee new subsection (a). After a brief discussion, the term “or other equivalent methods” and the word “snood” were removed.

The Chair moved to Section 3405, regarding Body Protection, and discussed with the committee new subsection (a), stating that these sections should be viewed as being equivalent to NFPA 1971, and that 3402.3 is equivalent to NFPA 1851.

During the discussion regarding new subsection (b), the Chair pointed out that the same problem of what is going to be allowed during the three year phase-in period exists. The Chair stated that the PPE complying with the 1981 edition of NFPA 1971 could be a 35 year old firefighter turnout. It is possible that it no longer exists or is no longer in use. The Chair asked, should the NFPA edition that is referenced in subsection (b) be updated or wait until 2019 when all the gear has been retired and then remove this old language.

A member asked whether this section was specifically about proximity fire fighting.

The Chair responded no, stating there is no existing safety order relating to proximity firefighting. NFPA 1971, 1981 edition applied only to structural fire fighting.

A member asked if this section was needed or could it just be deleted since there already is a section on PPE?

The Chair responded that the other section was for Selection Care and Maintenance of PPE, the counterpart of NFPA 1851 and what the committee is discussing now is analogous to NFPA 1971.

Mike Molloy (Anaheim Fire and Rescue) asked wouldn't it be better to have this section mirror the other sections previously worked on?

The Chair responded that this was not covered; the committee knows that in the three year phase-in period old gear would be retired. This subsection covers gear currently in service and permitted to be in service until the end of the transition period.

Kevin White (California Professional Association of Firefighters) asked how does this enhance Section 3402.1, since all the things being discussed now are already addressed in Section 3402.1?

The Chair reiterated that this subsection covers turnouts that are in service and will be allowed to be in service during the phase in period. The question is should the standard stay as is and come

back and delete it after the effective date of the requirement to retire PPE older than 10 years from the manufacture date?

Alvin Brewer (Los Angeles County Fire Department) suggested that the committee amend the edition to the 2000 edition. It would include the PPE that are currently in service and it will bring us up to a more current standard.

The Chair stated that is a viable option, which would mean that during the three year transition period there would be equipment manufactured up to the year 2000, instead of having gear manufactured to the 1981 edition.

The NFPA -1971, 1981 Edition was changed to the 2000 edition. This section was further amended striking out the remainder of (b) and (c)(1) to (c)(2).

The Chair moved on to Section 3406, regarding Hand and Wrist Protection. There was no discussion on subsection (a) or (b). The chair moved to subsection (c) and asked the committee the age of their gloves and if they are replaced often. The Chair also asked if their gloves meet the NFPA 1971(2013) edition.

A comment was made that gloves are replaced as needed and they meet the requirements of NFPA 1971, 2013 edition. After a brief discussion there were no changes to this section. The Chair called for a lunch break stating the completion of this section.

The Chair began with Section 3407 Foot Protection. There was no discussion on subsections (a) and (b). Proposed subsections (c) and (d) were amended to meet NFPA 1971-2013, thus deleting individual requirements under these subsections.

Tom Foley (TenCate Protective Fabrics) commented that the committee should adopt NFPA 1851 and 1971. The problem is that the manufacturers have to make gear in compliance with performance requirements in NFPA 1971, the employer has to purchase gear certified in compliance with NFPA 1971. NFPA 1851 is the end user standard for the selection, care, and maintenance of the PPE that meets NFPA 1971.

The Chair stated that the State is moving in the direction of requiring departments to comply with NFPA aligned standards. However, there is a transition period. Board staff's proposal requires new purchases to meet NFPA 1971 – 2013 edition. Employers will be purchasing the most current gear and will be NFPA compliant. However, California still has existing language that cannot feasibly be deleted completely, thus a transition period is needed. In addition, there are other dimensions in the safety order that are not in NFPA. The State regulations contain

important language addressing “employer duty to provide” and use requirements, which would need to be updated.

Richard Weise (SAFER) commented that the committee is blending two standards into one picking and choosing what to adopt and what to change.

The Chair responded that the committee is not blending two standards. Section 3402.3 is equivalent to NFPA 1851. The protective ensembles covered in NFPA 1971 are divided into separate sections, head protection, body protection and foot protection, which will be required to meet NFPA 1971, so there is no conflict. The other provisions are for the end user and the employer duty to provide, which cannot be deleted, because doing so will diminish the level of safety.

The Chair stated that Section 3407 is about foot protection. Subsection (a) is the employer’s duty to provide, subsection (b) states to coordinate footwear with clothing and (c) states that firefighters footwear should meet the NFPA 1971- 2013 edition., There is no blending of standards.

Steve Weinstein (Honeywell) stated that the agency (Board) is moving to be NFPA compliant. California law is structured differently from the NFPA. This committee is trying to fit the NFPA standards into California’s structure.

The Chair moved on to Section 3407.1 CBRN. She stated that there is no federal standards for CBRN, but FedOSHA and Cal/OSHA have a parallel standards called Hazardous Waste Operations and Emergency Response (HAZWOPER). The federal standard is 29 CFR 1910.120 and Title 8 Section 5192, is the California standard. The main difference is that CBRN is specific to terrorism incidences. The Chair asked should the committee incorporate by reference NFPA 1994 - Standards on Protective Ensembles for First Responders to CBRN Terrorism Incidents?

The Chair stated that Section 5192, the HAZWOPER standard applies to emergency response and includes response by local firefighters. She asked the committee to be mindful of the scope and application in Article 10.1 being structural and proximity firefighting, not hazardous cleanup. However, you could have a hazardous waste incident that could lead to structural or proximity fires.

The Chair stated that the main difference between CBRN, NFPA 1994 and the HAZWOPER standards is that CBRN uses the term “Class 2, 3, 4” to indicate the level of protection the PPE ensemble would provide. The HAZWOPER standard uses the term “Level, A, B, C, D”. The Chair asked which standards is used by firefighters? CBRN or HAZWOPER?

Vicky Wells (City and County of San Francisco) stated that San Francisco uses the HAZWOPER standard, which is more appropriate because there is a higher risk of coming into contact with those agents.

After a brief discussion the committee decided that CBRN NFPA 1994 does not have to be included in this update. The committee is deferring to the larger cities to develop their own procedures for dealing with terrorism incidences.

The Chair moved on to Section 3408, Personal Alert Safety Systems (PASS) and provided an overview of the personal alert safety system. She also provided a brief historical summary of the updates of the NFPA new editions. She was supported by Steve Weinstein (Honeywell), who provided his technical expertise by providing a thorough explanation of the technological and testing protocol changes of NFPA new editions.

Steve Weinstein (Honeywell) stated that there were two major changes in the 2013 edition. First there was standardization of the PASS sound; the other was adding performance requirements for the standards called RF PASS, which is telemetry, sending a signal out to the incident command about the fire fighter. This is an option if you use a RF PASS SYSTEM.

After further discussion on the PASS systems, the Chair reviewed subsection (a) of 3408, duty to provide. The Chair stated that subsection (b) should be updated to meet the requirements of NFPA 2007, because of the safety alert issued by the NFPA. The safety alert stated that the PASS signal from prior editions may fail at high temperature. The committee had no objections.

The Chair moved on to Section 3409, Respiratory Protection. She outlined the progression of the key changes in the specifications and technological advancements of NFPA standard per advancing edition. Steve Weinstein (Honeywell), who is a subject matter expert, provided a more in depth explanation of the changes.

Chris Anaya (Former Firefighter) and Steve Weinstein (Honeywell) highlighted important changes to the NFPA 1981, 2013 edition. NFPA added new tests, among them are: a lens radiant heat test, and a lens convective heat and flame resistance test.

The Chair summarized a petition received from California Professional Firefighters in 1987, concerning exposure to asbestos fibers and toxic fumes from smoldering materials and chemical spills. The petition asked the Board to consider creating standards for overhaul operations. The Chair reviewed the cancer rates for firefighters that supports the need to address overhaul operations.

The Chair reviewed the language for Section 3409 regarding Respiratory Protection. During the discussion regarding subsection (a)(2) for SCBA's she asked the committee if we should require compliance to NFPA standards and if so what edition?

Steve Weinstein (Honeywell) suggested that the committee should recommend the adoption NFPA 1852, in the same logic as discussed earlier wherein the committee has recommended the adoption of NFPA 1851. NFPA 1852 contains provisions regarding retirement of SCBAs.

The Chair asked what NFPA editions for SCBAs do departments use?

A comment was made that LA County Fire departments use SCBAs in compliance with the 2007 NFPA edition.

Al Yanagisawa (Los Angeles County Fire Department) asked, what is the retirement timeline for SCBAs?

Steve Weinstein (Honeywell) replied that it is 15 years. If Cal/OSHA adopts 1852 (2013) edition, SCBAs meeting the NFPA 1981, (1997, 2002, 2017, and 2013) editions are allowed to be in service. It is a dynamic requirement. When a new edition of NFPA 1852 is released, the oldest NFPA 1981 edition will be removed. For example, when the NFPA 1852 (2018) edition is released, the NFPA 1981, SCBAs meeting the 1997 edition will be dropped.

Al Yanagisawa (Los Angeles County Fire Department) stated that as a safety concern, he recommends the adoption of NFPA 1981 2013 edition because of the issue of melting SCBA facepieces.

Vicky Wells (City and County San Francisco) stated there should be input from the smaller fire departments, to see if they can comply with replacing the SCBAs due to the costs.

Chris Anaya (Former Firefighter) stated that we should use the 1852 timetable starting with the 2013 edition, because of the changes in the NFPA 1981, 2013 edition. One thing that we discovered, during thermal-heat release phase of materials, there is a rapid increase in temperature due to the combustion synthetic materials. We should match today's gear with today's environment.

The Chair commented that the problem is that NFPA 1852, allows 4 different editions to be in service, not just the 2013 and when 1852 gets updated, the standards will allow the next 4 different editions, with the oldest one dropping off.

Chris Anaya (Former Firefighter), stated that the change in 1981 (2013) is very important.

Eric Berg (Division) commented that the 1997 edition could be a 20 year old SCBA.

Steve Weinstein (Honeywell) agreed, but also stated that the NFPA 1981 (1997) edition could be purchased as late as 2002.

The Chair stated that she would solicit comments from the other representatives who were not here, the small and rural fire departments.

A comment by a representative from LA County Fire Department strongly recommended the NFPA 1981 (2013) edition be the minimum standards for SCBAs.

Kevin White (California Professional Firefighters) recommended the adoption of NFPA 1981 (2013).

Scott Quinn (LA City Fire Department) stated that there are real costs to make the corrections and to maintain SCBAs. The fire department's own risk assessment should make the determination if it should follow a higher standard for their respective agency.

The committee agreed that NFPA 1852 and NFPA 1981 2013 Edition (most current edition) were to be used. The Chair asked if the NFPA 1852 (2013) edition allows you to use NFPA 1981 (1997) equipment and a member confirmed that you could use 1997 or later.

The Chair stated that she would consult with the small, rural, and volunteer fire departments. She also explained that the safety orders are the minimum standards and employers can exceed them.

Steve Weinstein (Honeywell) stated that NFPA 1981 (2013) certified products have only been available in early 2015 because of the testing protocols. If everyone in California is mandated to change their SCBAs to NFPA 1981 (2015), that would be of significant cost impact. In many cases you can upgrade a previous edition of SCBA to the newer edition of SCBA by purchasing an upgrade kit, if one is available. Availability varies depending on the manufacturer. This would reduce to cost, because you would not have to buy a new SCBA.

Albert Yanigasawa (Los Angeles County Fire Department) asked for a cost range for the upgrade kit.

Steve Weinstein (Honeywell) responded that the cost may range from \$300 to \$2,000 per upgrade kit depending on the manufacturer. In some cases, you cannot upgrade. For example, if

the manufacturer has chosen to introduce an entirely new design that meets the newest edition of the NFPA. You have to look at every SCBA on a case-by-case basis.

There was more discussion regarding adoption of NFPA 1852. NFPA 1852 (2013) permits the use of SCBAs certified to the 1997, 2002, 2007, and 2013 editions. On the other hand, LA County Fire Department, Chris Anaya (Former Firefighter), and Kevin White (California Professional Firefighters) recommended that SCBAs in service should use the NFPA 1981, 2013 edition. Albert Yanigasawa (LA County Fire Department) later on clarified that his main concern is for the facepiece to meet NFPA 1981 (2013) edition.

Steve Weinstein (Honeywell) stated that it is possible to purchase just the facepiece as a certified component, certified to the NFPA 1981 (2013) and use it on older edition SCBAs. If we don't want to mandate the 2013 edition as the only edition that California allows, it is possible to mandate that the facepiece used on an older SCBA comply with NFPA 1981 (2013) edition. Not all 2013 facepieces will be compatible with older ones. Facepieces do vary from manufacturer to manufacturer and some can be used with the 2007 and 2002 edition SCBA units.

Vicky Wells (City and County of San Francisco) stated it may be alright to switch to the newer facepieces as long as the facepieces are NIOSH approved.

A member asked what would be the cost per facepiece?

Steve Weinstein (Honeywell) gave an estimate of \$300 to \$600 per facepiece.

Chris Anaya (Former Firefighter) commented that there are new test standards added in the 2013 edition which include testing requirements not only for the facepiece. There is a new convection oven test to 500 degrees. The new test affects the entire SCBA, not just the facepiece.

The Chair moved on to subsection (a)(2)(B)1., regarding close-circuit SCBA stating she is not sure where she found the language for this section. Steve Weinstein (Honeywell) stated that it came from NFPA 1500, which is the Occupational Safety and Health standard. He continued stating that he used to be in the closed circuit business and is very familiar with these units and that very few are used today. Those in service usually last about 2 hours and are 4 hours rated and 4 hours certified. These units are used for special applications such as tunnel rescue and subways. There is no problem adding language.

The Chair moved on to subsection (b)(1) General Requirements stating it there is cross reference to GISO, Section 5144 Respiratory Protection standards. The Chair proposed the deletion of the ANSI standards that are no longer active and stated there is some conflict with regards to the use of contact lenses.

The Chair proposed to require the written respiratory protection program to address overhaul operations.

Chris Anaya (Former Firefighter) stated that no one can define the atmosphere during an overhaul operation. It is an unknown atmosphere. He recommended that firefighters wear SCBAs, until you prove otherwise.

Mike Miller (Division) stated the committee should require the employer to develop and implement procedures for respiratory protection during overhaul operations.

Eric Berg (Division) stated that the language needed to be strengthened to make it clear that respiratory protection is necessary unless they can prove that there are no harmful exposures.

The Chair stated that during her research of overhaul protection, she learned the operation could last between one and four hours; she asked if the SCBA should be worn for the entire time.

Steve Weinstein (Honeywell) stated that some departments wear SCBAs during overhaul and they have to change personnel or air cylinders. On the other hand, there are departments, wherein you are lucky if they put on a half mask. Having nothing on is not acceptable. He suggested language that is broad enough to allow the employer to make a determination. The employer shall perform a hazard assessment and develop and implement procedures for the appropriate respiratory protection during overhaul operations.

Chris Anaya (Former Firefighter) stated that sometimes they use gas monitors with three to five sensors. They use carbon monoxide (CO) as a surrogate and then when they test for CO and the result shows that it is below to 25 ppm, employees are told to take off their stuff. The only things the gas monitor measures are CO, oxygen (O₂) in percent, and another gas.

Steve Weinstein (Honeywell) stated that if the assessment shows there is an unknown environment, because they cannot measure everything, then the appropriate respiratory protection is SCBA.

Chris Anaya (Former Firefighter) stated that fire departments think that carbon monoxide is a good surrogate. They do not measure other gases including hydrogen cyanide and other gases that are smoldering.

Alvin Brewer (Los Angeles County Fire Department) stated that LA County Fire, wear SCBAs during overhaul until the CO is less than 25 ppm.

The Chair asked if the proposal should state that firefighters wear at a minimum air purifying respirators during overhaul activities. Several committee members strongly disagreed.

Vicky Wells (City and County of San Francisco) stated during the overhaul activities, you don't know what the employees may be exposed to. It is difficult to assess depending on the fire, on what burned, on how hot it burned, how long it has been since it burned, so what gases do you have there. You have nothing to base the appropriate selection of an air purifying respirator on, to know that what is adequate for the particular hazard(s) you may have in any given overhaul situation. She continued stating she believes it against NIOSH's and Cal/OSHA standards on respiratory protection to mandate using an air purifying respirator, when you don't know what you are trying to protect against and you don't know what the levels are.

The Chair asked, for a small kitchen fire, would you wear SCBA for overhaul? Members of the committee said yes. Kirk Owen (Veridian) stated that there are so many unknown exposures and the best practice is to wear an SCBA. You have to rotate crews.

The Chair suggested language that stated the SCBA shall be worn during overhaul operations. The Chair asked for any dissenting comment. Chris Anaya (Former Firefighter) restated his support for an SCBA during overhaul operations. Richard Weise agreed with Mr. Anaya.

Steve Weinstein (Honeywell Safety Products) stated the standards could be undermined by mandating that SCBAs be worn during overhaul operations. Steve Weinstein works for an SCBA manufacturer and he agrees that SCBAs should be worn during overhaul, but does not think there will be great controversy if SCBAs use as described here is mandated.

The Chair stated that this language could be modified subsequent to the 45 day comment period if this language proved too controversial or there is too much opposition to it.

Vicky Wells (City and County of San Francisco) asked the committee if subsection (b)(2) is still needed?

Michael Miller (Division) stated that the exemption in subsection (b)(2) is probably for small fire departments.

Steve Weinstein (Honeywell) agrees with Vicky Wells (City and County of San Francisco) that subsection (b)(2) be removed. The committee agreed that deletion of subsection (b)(2) would be proposed.

The discussion continued with the committee consensus being that subsections (a)(4) and (a)(5) are to be deleted because NFPA 1852 (2013) edition and NFPA 1981(2013) will be proposed for incorporation by reference.

The Chair moved on to subsection (a)(6) concerning air cylinders.

A committee member voiced his concern regarding air cylinders, stating that NIOSH does not certify SCBAs as an individual component; it certifies them as an entire SCBA unit. When you submit a SCBA to NIOSH you submit a matrix of all the pieces that comprise that SCBA. The whole assembly is certified, not just the air cylinder. If you remove an air cylinder from a Scott unit and put it into a Honeywell SCBA, you void the certification of the Honeywell SCBA as far as NIOSH is concerned. Federal OSHA allows you to interchange cylinders only in an emergency situation. He stated that we need to be careful how we word this section, it would be best to make it specific to emergency situations.

It was decided that this section needs to be re-worded and suggested language will be sent to the Chair for consideration.

The Chair asked the committee which standards are followed with regards to breathing air, do they use air certified to meet NFPA 1989 or Grade D air?

Vicky Wells (City and County of San Francisco) stated that they use the Grade D air, and that the difference between the two is not huge. She stated that she never asked the testing laboratory if they test to the NFPA standards. If the testing is available she doesn't think testing to Grade D or NFPA is a big deal as long as the laboratory is willing to do it.

Chris Anaya (Former Firefighter) stated that one good thing about NFPA 1989 they found was when filling air bottles with the umbilical cord, some hoses would actually damage air. It would test alright at the source but once the air travelled through the cord, to a truck or something like that it was a whole different story. This is something NFPA looked at but the other grades did not. There are many things that the NFPA looks at the other grades do not.

The Chair stated that this is another section she would welcome more comments on.

Los Angeles County Fire Department uses Grade D air.

The Chair announced that the committee had concluded the review of the language.

A member asked that the committee be sent a clean copy of the proposal with less strikeouts.

Jim Evans (Solution Safety) asked, once these standards are in place what type of educational program will be available to help departments on how to implement this program on a budget? In Texas, we put together classes with Texas A&M University.

Mike Miller (Division) stated that if the departments got together as a group, they could contact the Consultation Service for assistance. Cal/OSHA Consultation is there to assist employers to be in compliance.

A committee member reiterated his concern about SCBA use during overhaul operations and asked members to carefully consider what it would take to implement the mandate of wearing SCBAs during overhaul operations. Overhaul is an intense and drawn out job.

A representative from LA County Fire stated that the committee is placing pretty restrictive requirements on everybody across the country. The smaller departments may not be able to manage wearing SCBAs from beginning to the end.

The Chair stated that all comments will be considered, and she reiterated the cancer rates, which indicate that SCBAs are really necessary during overhaul operations. Chris Anaya (Former Firefighter) cited another study with regard to overhaul.

Conclusion

The Chair stated that the minutes, and the new proposed text, will be sent out in March. The next advisory committee meeting will be on Wildland Firefighting and she asked for a headcount of who would attend.

A member asked where the meeting would be held.

The Chair responded that she would like to hold the meeting in a remote location, someplace where there is a forest service. She asked if any committee members had an idea of a location to please contact her.

Vicky Wells (City and County of San Francisco) stated we should remember that San Francisco gives mutual aid for Wildland fires, so this will not be just for departments located in the forest. This will probably impact most of the fire departments, particularly the large ones.

The Chair responded that the committee has not had smaller fire departments attend these meetings, so she was hoping to bring the meeting to them, in hopes of encouraging their attendance.

A member suggested holding the meeting in early April as not to conflict with the fire season. It was stated that the later weeks of April many members were unavailable due to other activities.

Lastly the Chair asked for volunteers for a subcommittee to discuss the cost of implementing this proposal.

A member asked what would be the next step after the Wildland meeting.

The Chair stated that at this point she did not have a Wildland proposal, and was not sure if she would hold a one-day or two-day meeting. She stated that if Wildland was completed, there would probably be a sub-committee to discuss costs next.

Tom Foley (TenCate Protective Garments) stated that the committee may want to contact Rick Swan, who chairs the NFPA 1977 and NFPA 1854 for Wildland Fire committees. The committee may want to adopt 1854 as we are adopting 1851. The Chair asked, Mr. Foley for assistance in contacting Mr. Swan.

Vicky Wells (City and County of San Francisco) stated the committee may not want to look at a standards for Wildland, which is about to be revised by NFPA.

A member commented that we may be able to obtain a copy of what is about to be released.

A member stated that the Wildland revision is about 2 ½ years away from completion, so the Chair stated it was best to continue with Wildland at this time.

Jim Evans (Solution Safety) stated that implementing NFPA 1851 was a problem for the fire departments as well as the inspectors, and suggested that training should be conducted for inspectors, so that they are all one the same page.

Eric Berg (Division), stated that the Division does conduct training on new regulations.

The meeting was adjourned at approximately 3:30 PM.