OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
(916) 274-5721
FAX (916) 274-5743
Website address www.dir.ca.gov/oshsb

ADVISORY COMMITTEE MEETING MINUTES

California Code of Regulations, Title 8,
Construction Safety Orders, Sections 1951, 1952, 1953, 1955, 1956, and 1960
and
General Industry Safety Orders, Section 5156

Confined Spaces in Construction (Clean-Up)

Wednesday, September 6, 2017
Sacramento, California

Chair, Michael Nelmida, Senior Safety Engineer, Occupational Safety and Health Standards Board (Board) called the meeting to order at 9:45 a.m. on Wednesday, September 6, 2017. Leslie Matsuoka, Standards Board Associate Government Program Analyst, assisted the Chair. Eric Berg, Deputy Chief, Health, Research and Standards, Division; Jason Denning, Principal Safety Engineer; Keummi Park, Senior Safety Engineer; Peter Sholtz, Senior Safety Engineer; and Mike Shields, Senior Safety Engineer represented the Division of Occupational Safety and Health (Division). The Chair welcomed the advisory committee members and asked for self-introductions.

The Chair then reviewed the Board's policy and procedures concerning the goals and objectives for the advisory committee process. He also provided a brief overview of the criteria for developing regulations consistent with the requirements of the Administrative Procedure Act and Office of Administrative Law. The Chair then directed the advisory committee's attention to the agenda and proposal, which were mailed to each member before the meeting. He encouraged the members to ask questions and/or raise issues pertinent to the proposed changes.

For the purpose of these minutes, the advisory committee's discussion is organized by section in the order the sections are shown in the proposal beginning with the Construction Safety Orders (CSO), Section 1951 and ending with the General Industry Safety Orders (GISO), Section 5156. The Chair asked if there were any general comments by committee members prior to the meeting.

The Chair asked the advisory committee for comments relating to the necessity for this rulemaking. Frank Belio, IUEC Local 18, asked where one might find the responses to comments from the original Construction Confined Space Horcher that was adopted by the Board. The Chair stated the responses to comments can be found in the Final Statement of Reasons (Board Memo, dated November 2, 2015) as part of the Horcher rulemaking which is available for review. Again, the Chair asked for any other comments relating to necessity or opposition to the rulemaking and there were none expressed. Dan Barker, Division, stated he

believes there is necessity to apply these confined spaces regulations to elevator hoistways under construction.

Peter Sholtz stated that following his read of the proposal, the only thing that really jumped out at him was inclusion of the concept of tagout with the other forms of control which in his estimation are more positive/protective (blanking, lock out) and represent a higher level of protection.

Mike Donlon, Department of Water Resources, asked if there was any more consideration given to combining the construction end of Section 5157 and not having two separate regulations. The Chair stated there was consideration given to merging the GISO and CSO; however, there are several significant differences such as how we deal with general contractors, owners, and their interactions. Also, the fact that it would be prudent to keep separate the CSO and GISO confined spaces standard so that in the event we change one, the other would not be affected. In addition, the Chair pointed out there are enough subtleties between the construction and general industry standards that it was deemed more effective by staff to keep them separate.

Brian Heramb, San Diego Gas & Electric, stated that one of the issues that has been difficult to understand is the impact as defined by the scope (elements of the scope). He stated that the regulation currently says that the scope sets forth the requirements to protect employees engaged in construction activity at a worksite where one or more confined spaces exist. Under the CSO, there are about a half dozen different activities that are construed as construction-like such as alteration, painting, maintenance, and renovation. Mr. Heramb went on to say that San Diego Gas & Electric has many projects where their crews are at a jobsite of a customer where they are involved in some type of construction activity. Their projects may be strictly repairs or replacement in a vault. The way the scope is written it casts a really broad net so that it triggers this requirement to assess their confined space as a permit required confined space because of someone else's activities not directly affecting the confined space. The Federal Final Rule ended up broadening the scope by the way it was written.

The Chair emphasized that the state's proposal must be at least as effective as (commensurate with) the federal standard when comparing scope to scope.

Kent Freeman, California Health and Rescue Training, stated that in his emergency rescue business, the issue of determining which regulation applies and how it applies has been an issue. Mr. Freeman indicated that his consulting firm always explains to rescue fire service that a confined space is defined by three criteria. Is the space a confined space, is it a permit required confined space, and what is the purpose of entry? Providing clarity does not affect the stringency of the standard. Mr. Freeman stated the need to develop clarity so that employers will know what applies and when. It is his hope that the committee will address this clarity as the committee discusses the proposal.

Mike Donlon stated that the term "construction maintenance" is vague, broad, and often interpreted unevenly, as this term affords the Division much leeway.

Jamie Carlile, Corporate Health & Safety, Safety Programs, stated that he would like to see more clarity in the proposal as it relates to the Electrical Safety Orders (ESO) (e.g. High-Voltage ESO (HVESO), Section 2943.1 as it compares to Section 5158 [enclosed spaces]). The Chair stated that the amendments to the HVESO are still ongoing and will not be addressed in today's committee meeting. Only the key interactions between contractors who operate with the enclosed space and confined spaces requirements will be addressed at this advisory committee meeting.

Section 1951. Definitions.

The Chair directed the advisory committee's attention to the first definition proposed for amendment, *Entry employer* and he explained the proposed change. Mike Donlon stated the phrase "reasonably foresee" as very vague. Amber Novey, Laborers International Union of North America, agrees with Mike Donlon that the phrase was unreasonably vague and could result in tie-ups within the Occupational Safety and Health Appeals Board. Eric Berg asked if the phrase in question is used in any other standards to which the Chair replied "it does". Mike Donlon stated that, as written, it is poor regulatory language that will be decided by case law. Dan Barker asked Mr. Donlon if he had any language that would hold the employer's feet to the fire.

Mike Donlon stated that the existing language is adequate. Eric Berg stated if the language is deleted, there should be something there to replace it. Mr. Donlon stated that something (language) more direct is desirable. Mr. Donlon stated that if we simply say that any employer who has employees who enter a permit space is an entry employer. This language is simple, clear, and direct in terms of what the employer's responsibility is. It is also much easier for the Division to cite. The advisory committee, including the Division, were in agreement and recommended the definition be amended, accordingly.

The Chair then directed the advisory committee's attention to the proposed strike-out of the NOTE that follows the term *entry employer*. The Division stated that with the proposed change to the definition of *entry employer*, the NOTE is not needed.

The next proposed revision is to the term *Hazardous atmosphere*, and the change is to reflect what is in Section 5158. Kent Freeman asked the Chair to explain why the NOTE was proposed for deletion since most employers do not have dust meters and rely on rough visual "eyeballing" to determine whether the dust concentration in air may pose a fire/explosion risk. The Chair explained that it is more protective to quantitatively measure dust concentrations in air in terms of exceeding 20 percent of the minimum explosive concentration (MEC) than to use a crude, subjective method based on obscuring vision at 5 feet. Mr. Freeman stated that regardless, a NOTE is useful in clearing confusion. The Chair stated that the 5-foot visibility criterion is no longer accurate when mentioned in the same paragraph as the 20% of the MEC; the two do not correlate. It correlates with the Lower Explosive Limit (LEL), not the MEC.

Ed Yarbrough, CalTrans, asked how do we measure that? Have we put something in there to make it possible for an average employer to determine if he/she is there? In addition, how does the Division prove we have exceeded it? Eric Berg stated that we have had this requirement for

20 years; there is nothing new about it conceptually. Mr. Berg stated that there are dust meters that will measure such concentrations. Kent Freeman stated that such meters are not in common use, although he admitted, maybe they should be. Mr. Freeman asked whether the committee or the Chair had any data on at what distance, being at 20% of the MEC, obscures vision? The Chair responded by stating that his literature search did not turn up any data to support a relationship between visibility in distance measured in feet and 20% of the MEC.

Eric McClaskey, International Union of Elevator Constructors, Local 8, stated that if he is working in the field as a compliance officer and does not have this dust meter, he will need a new number to use as benchmark to make the necessary determination.

Kent Freeman stated that employers need something simple to use to make a reliable determination of how dusty an atmosphere is so they can take needed action. Mike Donlon suggested the Chair reach out to combustible dust experts to come up with a number (empirical data) that could be used. He stated that it appears this issue is beyond the committee's expertise. Eric Berg and Jason Denning agreed that more research on this issue is needed. Mr. Denning stated that the numerical factor used in paragraph (2) of the hazardous atmosphere definition is used in other standards, and he did not understand why it is an issue here. The Chair stated that he intends to table this issue for now, acquire an expert opinion, and make the appropriate numerical insertion into the proposal. The Chair invited the advisory committee to provide any expert contacts for this discipline that would be of help.

The Chair then asked again whether there was agreement in the proposed amendment of the definition of *hazardous atmosphere* as shown in paragraph (2) which utilizes the term MEC. The advisory committee expressed consensus over the definition with the exception of the proposed deletion of the NOTE for which additional technical data has been sought.

The Chair then directed the advisory committee to review the proposed amendments to the NOTE that follows the terms *Isolate or isolation.* Mike Donlon stated that at the Department of Water Resources, lockout/tagout is used all the time for protecting employees from water engulfment hazards. Jason Denning stated that he was not sure what the term "electro-mechanical" means. The Chair indicated that the term "electro-mechanical" referred to electrically powered machinery. Eric Berg stated that regarding flowable hazards, closing a valve is probably effective for water but not for hazardous substances.

Brian Heramb asked the Chair to provide an explanation or detail on why Section 3314 does not address flowable hazards. The Chair stated that Section 3314 was intended to address mechanical hazards, a physical hazard that moves and which could cause physical injury. Mike Donlon said the movement of water by gravity is capable of causing physical hazards. Given that he expressed concern that, as worded, the NOTE would give credence to the notion that lockout/tagout would not be allowed at water plants to control the flow of water. Water Resources has been using lockout/tagout for decades to control such hazards. Many of the piping systems at his plants are not designed for double block and bleed or blinding. Eric Berg suggested deleting the term "engulfment" as he stated that lockout/tagout is not isolation. Kent Freeman asked why we could not change the phrase "will not" used in the NOTE to "may not"?

The Division stated they would be opposed to such a change as it would make the NOTE vague. Dylan Wright, PG&E, questioned the Division's concern since his company utilizes a variety of methods to control different types of substances as set forth in the definition of *isolate or isolation* and they have never had a fatality.

Mike Donlon stated that he is fine with striking the term "engulfment hazards". The committee reached consensus to simply strike the term "engulfment hazards" from the NOTE to clarify that isolate or isolation methods are specific to those methods that will be effective in controlling the flow of hazardous materials into a confined space and to further clarify that lockout/tagout methods, principally intended to control physical hazards created by flowable materials, alone, are not effective to control hazardous substances that may invade a confined space. The committee recognized that the employer would need to select the method(s) suitable to the nature of the hazard to ensure that employees working in confined spaces are not exposed to any type of substance or action that could be harmful.

The advisory committee then discussed the term *Lockout.* The Division suggested changing the term "established" to "effective" and to strike-out the reference to Section 3314, lest there be any confusion over whether Section 3314 methodologies for controlling hazardous energy were suitable for controlling airborne contaminants into a confined space. The Chair asked the committee for an example of an effective procedure. Mike Donlon stated that one could have a poorly established procedure to which Eric Berg stated that effective means it really works. Ed Yarbrough asked for a definition of "effective". The advisory committee reasoned that "effective" means the procedure actually works (i.e. no one was injured, made ill, or killed), and the Division would have the burden of proving the procedure was ineffective. There is ample case law that defines what an effective procedure is. This response appeared to satisfy Mr. Yarbrough.

The advisory committee reviewed the proposed definition of "MEC" and stated that more data is needed for the Chair to be able to make a decision on wording. The Division volunteered to provide contacts and or information that would be useful to the Chair to develop the "MEC" definition into something that employers could actually comply with.

In reviewing the proposed amendments to the definition of *Tagout*, the advisory committee stated that just as the definition of lockout has been revised to state 'effective" rather than "established", the same type of revision should be made to *tagout* so that the phrase will read "effective procedure". Peter Scholz stated his position that the term *tagout* should be stricken from the proposal altogether. *Tagout* comes from Section 3314(c) which applies to cleaning, servicing, and adjusting of machines for short durations. If we allow this concept to migrate into this standard, it would be a misuse of the Section 3314(c) standard and create a loophole. Brian Heramb disagreed and stated that *tagout* is used extensively by his company for electrical isolation even when they include confined spaces. They do not use locks on all switch handles.

Mike Donlon stated that he was fine with revising *tagou*t to read verbatim as *lockout*, as discussed earlier, as far as the term "effective" procedure is used rather than "established" procedure, but also suggested that a paragraph (2) be added to ensure that if *tagout* is used it must

ensure it provides safety equal to *lockout* (which he admitted may be tough to show) and that the employer be held to demonstrate that *lockout* is infeasible and that all stored and residual energy has been neutralized (no longer a threat to the employee). Mr. Donlon believed this would address Mr. Scholz's concerns.

Mike Shields, Division, stated he agreed with Mr. Donlon's suggested change and went on to say that any employer who tries to put forward tagout as a procedure in lieu of lockout will need to ensure those items are covered by paragraph (2). However, Peter Sholtz continued to insist that tagout cannot be proven to be as effective as a physical lock and asked Brian Heramb if there is a good reason why locks cannot be used on the circuits he cited earlier as an example of equipment his company routinely tags out. Mr. Heramb explained that there are many circuits that are not designed for locks and cannot be modified to accept locks. Mr. Donlon stated that the reason why the systems described by Mr. Heramb are not designed for locks is because tagout is offered extensively as a required control method in the Electrical Safety Orders.

The advisory committee consensus was to revise the definition of *tagou*t as described above, with the inclusion of paragraph (2). This proposal was the recommendation of both labor, management and various members of the Division, with the exception of Mr. Scholz. Mr. Berg stated that paragraph (2) be included in the *tagout* definition and that he could live with the *tagout* provision. He also stated that while he preferred lockout methods, he could live with the use of the term *tagout* provided that paragraph (2) was included. A few committee members suggested perhaps in paragraph (A) to replace the word "or" after "lockout" with the word "and". Mr. Donlon reminded the committee that the ESO has allowed for years the use of tagout and, therefore; he opposed use of the term "and". The Chair decided to allow the language specifying "or" to stand for the time being subject to future public comments (i.e. after the post advisory committee draft is mailed to members for their comment). It was also noted that paragraph (2) is federal language.

There being no further discussion, the Chair stated that the advisory committee's review of the definitions was now concluded, and that it was time to begin the review of the rest of the proposal beginning with the following:

Section 1952. General Requirements.

The Chair explained that he proposes to delete existing Section 1952(a)(1) – (a)(3) for replacement by an identification schema based on the identification of Confined Spaces and Evaluation of Permit Required Confined Spaces taken from various relevant sections of the ANSI/ASSE A10.43-2016, Confined Spaces in Construction and Demolition Operations standard, specifically Chapters 4.12, 4.13, 4.14 and 4.15. The Chair stated that he believes these provisions to be better and more effective than what he originally proposed. He provided copies to the committee members and gave them time to review the relevant ANSI/ASSE section chapters.

Mike Donlon asked for the reason for eliminating the federal language in Section 1952(a)? The Chair stated it was ambiguous and convoluted ignoring the discovery of new confined spaces as

the project goes along. Ed Yarbrough stated that he is in agreement with that concept. Again, Mr. Donlon stated he wanted to be sure he understood what the Chair was proposing and indicated that it appears the existing subsection (a) is being deleted in favor of a new subsection (a) that draws upon the provisions of the ANSI/ASSE A10.43 standard and Chapters 4.12, 4.13, 4.14 and 4.15. The Chair responded that he was correct. Mr. Donlon and a number of other committee members, including the Division, agreed with this proposed change. The Chair stated that Chapter 4.15 would be clarified to indicate that we want a competent person to evaluate what are confined spaces and make a determination as to whether or not those confined spaces rise to the level of a permit required confined space. Those permit confined spaces would have to be dealt with what is proposed in the rest of the proposal. The committee reached consensus that the replacement, as suggested by the Chair, should proceed and to include the provisions of the ANSI/ASSE standard enumerated above.

In Section 1952(d), Eric Berg suggested rewording subsection (d) to simply state that if an employee enters a permit space, his/her employer shall have a written permit space program (based on language by Dan Barker) that complies with Section 1953. Mr. Berg stated that the NOTE that follows should be deleted to be consistent with prior proposed changes discussed earlier (to mirror the of definition of *entry employer*). Mr. Donlon stated that the NOTE should be deleted although the Division stated that they might prefer to leave it in, but could live with the NOTE deleted. Again, the phrase "reasonably foresee" (vague) is deleted. Mike Donlon stated that he is in agreement with the suggested changes. The committee did not express any objections or concerns over the proposed changes to Section 1952(d) which was taken as general agreement by the Chair.

The advisory committee then began consideration of proposed amendments to Section 1952(e)(2)(C) that were made in response to a comment provided to the Board at the time of the Horcher adoption of the confined spaces in construction proposal. The Chair stated that the idea was the standard needed to account for multi-gas meters rather than using one meter for each contaminant (technology accommodation). Eric Berg stated that LEL detection will malfunction if the oxygen levels are too low and the user will get an erroneous reading. This means the user could be misled into thinking he/she does not have an explosive atmosphere present, when in fact the user does. The Chair asked the advisory committee for language that would account for that, to which Mr. Berg stated that a NOTE be added to subsection (e)(2)(C) stating that oxygen readings below 19.5% or above 23.5% (apparently an enriched oxygen atmosphere can create false readings) may produce an inaccurate flammable gas and vapor reading. The advisory committee also reasoned and proposed language that concurrent gas testing should be conducted when the detection of oxygen, flammable gases and vapors, (suggested by Keummi Park) and toxics are performed by a multi-gas meter, a device which is available off-the-shelf and can perform as the proposed language requires. This is consistent with the definition of *hazardous atmosphere*, which uses the term "flammable".

Eric Berg stated that there is an important distinction given the inaccurate flammable gas/vapor readings the user could get if oxygen levels are not what they should be. Therefore, the user can use a multi-gas meter to get the needed data; however, oxygen should always be read first. Kent Freeman stated that if the user looks at all the new direct reading instruments, he/she does not

actually impair oxygen readings until the reading drops below 17.5% oxygen in air. Mr. Freeman stated that multi-gas meters made by Biosystems, MSA, and Industrial Scientific all say that oxygen must be read first on their instruments.

Peter Scholz asked Mr. Freeman what do these new instruments tell a person when oxygen levels are too low about the combustible gas readings? Do they warn the user? Mr. Freeman said that is the concern, the user get an incorrect reading when the reading is below 17.5% oxygen, the screen on the device gives the user an erroneous number when his/her detection methodology, such as a Wheatstone bridge or catalytic bead sensor, finds oxygen levels too low.

The advisory committee then turned its attention to the review of the proposed amendments to Section 1952(h) - Permit Space Entry Communication and Coordination. The Chair prefaced the discussion by stating that subsections (h)(1)(A) and (h)(1)(B) reflect consideration given to the fact that there may be contractors present on or near the same jobsite but operating under different confined space programs at the same time, and that coordination between contractors is necessary.

Ed Yarbrough stated the controlling employer's standard would be the standard for the contract unless one of the sub-contractors had a more stringent program developed on their own. Mr. Yarbrough asked the Chair is that correct? The Chair stated that under the current standard, he did not think that was the paradigm. Mr. Yarbrough gave an example of a prime crane contractor who performs a checklist at 70% of the load versus the general whose program specifies such testing at 80%. Mr. Yarbrough indicated that the controlling contractor's program takes precedence and the sub-contractor has to follow the prime contractor.

Mike Donlon stated that he thought that would be true only if it is written in the contract. If a prime contractor writes the contract to say that the sub-contractor will use the prime's program, then that is what will happen. The Chair stated that there is nothing in the standards requiring the prime or controlling contractor's program to take precedence. When multiple contractors are involved on site, there is a responsibility that they coordinate their programs. Mike Donlon stated that the problem with using the multi-employer worksite paradigm, as mentioned by Ed Yarbrough, is that if CalTrans hires him (Mr. Donlon) as a sub-contractor, he would have to use CalTran's program that would require Mr. Donlon to have to re-train all his employees in the CalTran's program. Mr. Donlon stated that as the controlling employer, the controlling employer needs to ensure that the sub-contractors are following the regulations (not necessarily the California Department of Transportation's program, but the ones that apply to them).

Cindy Sato, Construction Employers' Association (CEA), stated the CEA has reservations and concerns about the feasibility of having all the employers, that are entry employers go about writing their programs to contain specific procedures to address how all the other entry employers would go about their work activity in relation to confined space work and understand all the hazards and coordinating work that these other entry employees are going to face.

Therefore, Cindy Sato proposed the following language:

"The employer's permit required confined space program shall include communication procedures so that work activities can be coordinated and the operations of one employer will not endanger the employees conducting operations of another."

The CEA believes there should be some coordinated effort to make sure no employee is endangered.

Brian Heramb provided the advisory committee with a real world example in which his company would contract with a prime contractor for construction work in a power plant where the work is going to involve different trades. One group may have to purge and clean a space, followed by a dry ice blasting company, and then they might have a separate company that is going to perform welding and grinding and prep, followed by a painting contractor. Individually, these sub contractors have their own confined space program and the prime contractor may have a program but because of the unique types of hazards that are presented by the work performed by these sub-contractors and the specific types of equipment to be used, it would not be adequate for the prime contractor to manage their confined spaces. It is very clear that they have to communicate between each other to make sure there are no gaps. It would be very difficult for one program to supersede all the other programs and still provide effective safeguarding for those employees.

Mike Donlon stated that he likes the CEA suggested language because of its simplicity and clarity. He also indicated that, in his opinion, the CEA language was commensurate with the comparable standard. The Chair agreed and indicated that Section 1950(c) remains unchanged (i.e. where the standard applies...etc.) Both Mr. Berg and Mr. Scholz indicated that they are in agreement with Mr. Donlon. These three committee members stated that they found the Board staff's proposed subsections (h)(1)(A) and (h)(1)(B) hard to understand. The Chair suggested to delete subsections (h)(1)(A) and (h)(1)(B) and to replace these subsections with CEA's suggested language, as a new subsection (h)(1)(A), that would simply read:

> *(A) The employer's permit required confined space program shall include communication procedures so that work activities can be coordinated and the operations of one employer will not endanger the employees of another employer.*

The advisory committee was in consensus with this proposed language and to editorially re-number the remaining subsections as subsection (2) through subsection (6), respectively.

Jamie Carlile asked what was the intent of subsection (h)(1)(B)? The Chair indicated that subsection (h)(1)(B) was merely meant to inform employers that there may be other confined space requirements that may apply at a given worksite. Peter Scholz suggested creating a NOTE out of the language in subsection (h)(1)(B) stating that the prime contractor would be responsible for making sure his/her confined space program accounts for other confined space requirements that the sub-contractor's employees may be subjected to. The committee reasoned after deliberation that there was no need for a NOTE and that the language in proposed subsection (h)(1)(A) was sufficient to effectively address the issue.

The Chair then directed the advisory committee to begin review of the proposed amendments to Section 1953(a)(3) pertaining to effective written procedures. The advisory committee was in agreement with the proposed amendments. Next, the committee considered amendments to subsection (a)(3)(D) and the conversion of the NOTE into regulatory text as subsections (a)(3)(D)1.(a) – (c). Brian Heramb stated that there are a few situations where his employees work in flammable atmosphere most likely due to a rupture or malfunction of some kind and where as directed by the proposed subsection (a)(3)(D)1.(a), there may not be time to inert the workspace. Mr. Herramb asked the Chair for a comment period following the meeting to check with his company to determine whether there would be any operations that would be affected by the proposal. The Chair stated that when the post advisory committee proposal goes out for comment, such feedback from Mr. Heramb would be appreciated.

Peter Scholz stated that the term "entrant employer" as used in subsection (a)(3)(D)1. should for the sake of consistency throughout the proposal, be changed to "entry". The advisory committee agreed that this recommended change should be made. With respect to subsection (a)(3)(I), the Chair stated that this language was brought in from GISO, Section 5158. This is part of proposed subsection (a)(3)(I). Mike Donlon noted that oxygen deficiency is one of the conditions listed in subsection (a)(3)(I) that would prevent an employer from work involving the use of flame, arc, spark, or other source of ignition in a permit space. Mr. Donlon stated that one might need to inert a space which creates oxygen deficiency. He did not think oxygen deficiency increases fire hazard. The advisory committee reasoned that subsection (a)(3)(I) was intended to address fire and explosion hazards and, therefore, listing oxygen deficiency and dangerous air contamination was inappropriate. Keummi Park stated that she did not favor the deletion of the phrase "dangerous air contamination" as that same phrase is used in Section 5158. Ms. Park stated that the elimination of the phrase would reduce employee safety as far as this proposal is concerned. She also suggested breaking off dangerous air contamination into a separate sentence.

Mike Donlon disagreed with Ms. Park. He stated that the phrase Ms. Park suggested retaining is extra wording that does not actually add anything. Mr. Donlon went on to say that if a flammable atmosphere exists, what if it was because of something else? Mr. Donlon believes it is unnecessary wordiness since the proposal is still restricting the flammable atmosphere. Subsection (a)(3)(I) prohibits working where there is any kind of flammable atmosphere for any reason. The phrase simply does not add anything. The Chair reviewed Section 5158 with the advisory committee. The Chair stated that Section 5158 was intended to address a situation where the employer cannot control dangerous air contamination or the space becoming oxygen deficient/oxygen enriched.

Again, Mr. Donlon emphasized the proposed changes make it clearer without reducing the effectiveness at all. Eric Berg stated that toxic environments are flammable atmosphere and, therefore, the Division accepts the proposed change.

The advisory committee also suggested adding the term "atmosphere" after flammable in subsection (a)(3)(I). Therefore, subsection (a)(3)(I) was revised as recommended by the committee to state after the phrase "oxygen enrichment,", "*flammable atmosphere and/or explosive substances which cannot be controlled; and".*

With regard to Section 1953(a)(3)(J), the advisory committee had no issues with the proposed language.

With regard to Section 1953(a)(5)(C), the Chair stated that concurrent testing under subsection (a)(5)(C) will be revised in accordance with the concurrent testing requirements listed elsewhere in the proposal [Section 1952(e)(2)(C)]. The advisory committee agreed that the revised language for subsection (a)(5)(C) should be:

"(C) When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors. Concurrent testing for atmospheric hazards may be conducted if the detection of oxygen, flammable gases and vapors, and toxics are performed by a multi-gas meter."

Section 1955. Entry Permit.

The Chair directed the advisory committee's attention to review the proposed amendments to the NOTE to subsection (a)(9). The Chair stated that based on the committee's prior discussion earlier in the day, that which is shown in strikeout notation shall be restored and that which is shown as underlined amendment will be deleted. Peter Scholz suggested that part of the NOTE which refers to Section 3314 should be deleted but that it would be helpful to retain examples of measures employers can use to isolate permit spaces as required in subsection (a)(9). Mike Donlon again stated that the term "electro mechanical" was problematic and he repeated his rationale from the prior committee discussion on this issue. Jason Denning stated just simply leaving in the term "mechanical" and deleting "electro" fails to take into account other types of hazards. Mike Donlon stated that any stored energy sources that are hazardous are of concern to those working in permit-confined spaces. Brian Heramb stated that the NOTE should mention "double block and bleed". Eric Berg stated that he would like to introduce a phrase into the NOTE that would recognize blocking as well as lockout.

Peter Sholtz noted that the aforementioned issues (methods of isolation) are already contained within the definition of "isolate and isolation" discussed earlier. Mr. Sholtz went on to say that in deliberating over the NOTE to subsection (a)(9), the advisory committee appears to be writing another definition for "isolate and isolation" and asked why not reference that definition in the NOTE and delete everything else. The Chair wondered if the NOTE is superfluous since the proposal already defines "isolate and isolation" and asked the advisory committee if removing the language of the NOTE in favor of a cross-reference to the Section 1951 definition of "isolate and isolation" is acceptable. The advisory committee was in full agreement with the Chair's suggested revision.

The NOTE would then read:

NOTE to Section 1955(a)(9): See definition of "isolate and isolation" in Section 1951.

Section 1956. Training.

The Chair explained that the reason he proposed splitting the requirement in subsection (a) was because it took away from the clarity of having one large paragraph with two independent thoughts blended. Mike Donlon agreed. Overall, the advisory committee agreed with the substance of staff's proposed amendments and only suggested minor editorial revisions for clarity to Section 1956 and concurred with the Chair's suggested splitting of the existing language and recommended the existing language be broken down into two thoughts as subsection (a) [describing the employer's duty to provide training] and subsection (a)(1) indicating what the training is to accomplish [i.e. result in an understanding of the written procedures per Section 1953(a)(3)].

Section 1960. Rescue and Emergency Services.

The Chair indicated that this was brought in because of the provisions under Section 5158 which requires rescue services in the form of an attendant or standby person. Mike Donlon stated that many people will read standby person as the attendant and that maybe the Chair was thinking of a rescue person instead of a standby person. The Chair asked the advisory committee if the phrase "...one or more standby persons" should be replaced with "rescue persons". A member of the committee asked who is the employer? The Chair responded by proposing to revise that by specifying "entry employer". Mike Shields asked about the rescue person noting that he/she is located at the site and immediately available as stated in Section1960(a). He asked whether being on site and immediately available are possible in all cases. Mike Shields pursued his question further by asking, what if they were in the contractor's trailer on site. He argued that they would be at the ready. Mike Donlon stated that per confined space entry requirements, they have to be immediately available on site.

Dan Barker stated that in the definitions section, there is a definition for "rescue service" and that means the personnel designated to perform rescue. He asked the Chair whether it would be better to use that term in subsection (a). The advisory committee agreed with Mr. Barker to change the previously suggested phrase "rescue persons" to "rescue service". Jason Denning suggested specifying that the rescue service be at the confined space or permit confined space location, rather than to just stay at the site. Dan Barker did not agree and wondered if an employer had multiple confined spaces scattered throughout the site, if it was reasonable to expect the employer to have a rescue service team stationed at each confined space as opposed to being at the site. The Chair noted that if it is a permit required confined space, an attendant stationed at that type of space is already required; this is different from the rescue service team.

Dan Barker attempted to dramatize his point with an actual elevator scenario where there exist ten elevators scattered across a 10-acre site. Again, he asked if it is reasonable to expect the employer will have rescue personnel standing at each elevator pit if each pit is considered a confined space? Mr. Barker stated that he is concerned about over-regulating this issue beyond reasonableness. The Chair clarified that the concern here is that rescue team would be needed to address permit-confined spaces (potential for a hazardous atmosphere) not confined spaces.

Mike Donlon stated that Section 5157 was never interpreted to require a rescue person at each confined space. This issue is really covered in Section 1960 where subsection (a)(1) goes on to say that the employer has the obligation under law to evaluate the prospective responder's ability to respond in a timely manner based on criteria, or words to that effect. Therefore, if there are two confined spaces that are a distance apart, two rescue teams will need to be assigned, however, they can be doing other things in the area until they are needed at which time they would drop what they are doing to respond. That has always been the way the Division viewed and interpreted such situations. It is a performance standard and the employer needs to make that determination. Peter Scholz mentioned that the Hazwopper standard, subsection (q), requires back-up personnel to standby with equipment ready to provide assistance or rescue and shall not engage in any other activity that will detract from that mission.

Mike Donlon quickly responded that in confined space standards that is what Section 5157 says about the attendant, not the rescue services. Peter Scholz stated that the Hazwopper standard does in fact say that about the rescue services. Mike Donlon stated that is not confined spaces.

Eric Berg stated that he was satisfied with the proposal, as revised, using the term "rescue services" in lieu of "standby persons" with no other changes to subsection (a). There being no further comments, the Chair explained there will be some format changes made for clarity to breakdown the requirements of Section 1960 into subsections (a), (b), (c), (d) and (e) due to the creation of a new subsection (a) that sets off the requirements for employers who designates rescue and emergency services pursuant to Section 1953(a)(9). The advisory committee was in agreement with these editorial changes and moved on to the last section for discussion.

Section 5156. Scope, Application and Definitions.

The Chair stated that the last proposed amendment is made to take out the reference to construction operations from Section 5156 and thus refer the employer to construction in confined space requirements contained in Article 37 of the CSO. There were no comments or concerns expressed by anyone on the advisory committee to these proposed amendments.

Cost Impact Discussion.

The Chair provided the advisory committee with the choice of going into a cost discussion this first day of the advisory committee (September 6, 2017), come back tomorrow (September 7, 2017) or have the advisory committee provide cost impact data at a later date. Given the recommended changes to the proposal through the advisory committee's consensus, various members of the committee stated it would be better to defer the submittal of cost impact data to the Board staff later so that the changes/revisions could be properly considered and analyzed in terms of cost by the members and later by Board staff. The Chair explained to the advisory committee the Board's obligation to report on cost impact (economic-private and fiscal-government) as part of the rulemaking process.

Mike Donlon call the advisory committee's attention to the fact that Board staff safety engineer Maryrose Chan sent out a very effective letter to stakeholders describing what she wanted for

cost information. Mr. Donlon suggested that the Chair copy that letter and send it to the committee; thereby, explaining what the Board means by cost and what raw information is needed. The Chair responded that he can do that and would indeed use that approach. The advisory committee approved that decision and indicated that the second day to meet was not necessary.

The Chair then asked the advisory committee if there were any other portions of the construction confined space standard that the committee desires to address or expand upon. There were no further comments from the advisory committee. The Chair explained that Mike Manieri of the Board staff will be developing the minutes of the meeting and the minutes will be mailed out to members and any interested parties in the form of a post-advisory committee mail-out consisting of a cover memo, the minutes, the revised proposal, and the updated roster.

There being no further comments, discussion, or expressions of any kind by the advisory committee members relevant to the agenda items, the Chair thanked the advisory committee members for their participation and comments and adjourned the advisory committee meeting at approximately 3:00 p.m.