

P A R T I C I P A N T S

PRESENT:

Lee Smith, Chairperson
Brenda , Facilitator
Michelle Benjamin

SPEAKERS:

Hap Pigsley
George Kennedy
Robert Carbone, Jr.
Paul Meade
Phillip Prichard
Walter Tucker
Charles Flanagan
David Lamensdore
Colin Riley
Gary Hamilton

I N D E XDEPARTMENT OF LABORPUBLIC STAKEHOLDER'S MEETING ON CONFINED SPACE IN CONSTRUCTIONOctober 24, 2000

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Keynote: "----" indicates inaudible.

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1 M O R N I N G S E S S I O N

2 W E L C O M E A N D I N T R O D U C T I O N

3 **By Lee Smith, Chairperson**

4 CHAIRPERSON SMITH: Let's get started. Good
5 morning, my name is Lee Smith. And I work as the Director of
6 Construction in OSHA's National Office in Washington, D.C.
7 I'd like to welcome you all here today to confined space in
8 construction stakeholder's meeting.

9 This is the final stakeholder meeting that will be
10 held. The previous meetings were held in Washington, D.C. and
11 in Houston.

12 First of all, I'd like to apologize. I understand
13 some of you had problems with the fax number, where you were
14 attempting to send your attendance requests and speaker's
15 requests. I'm very sorry for that. As you may know, we are
16 working on a continuing resolution, which is if you are a
17 government employee, you know how unpleasant every experience
18 has been in the past. And it continues. And I apologize for
19 that.

20 But I do want you to know it is a public
21 stakeholder's meeting. Anyone who wants to attend, can
22 attend. And anybody who wishes to speak will be given
23 speaking time. If those of you in the audience wish to speak,
24 just let us know and we will provide you a seat on the podium.

25 OSHA intends to issue a Notice of Proposed

1 Rulemaking for confined spaces in construction next year. In
2 order to develop that standard, OSHA has requested that we
3 hear from stakeholders concerning confined space in their
4 construction. A list of five significant issues that OSHA
5 feels pertain directly to the confined space standard was
6 printed and issued to nearly every stakeholder that, I think,
7 is attending here today.

8 Those significant issues were addressed at the
9 previous two meetings, as well as other as significant aspects
10 of confined space in the construction. Once the speaker is
11 done, we hope to hear from the audience members to also hear
12 additional comments.

13 As I said earlier, everyone who requested to speak
14 will be allowed to do so. As you can tell, this meeting is
15 being video taped. The reason for that is OSHA will make a
16 summary report of all comments heard today. Those comments
17 will be non-attributed, even though the facilitator will ask
18 you to identify yourself and your affiliation. The final
19 report, or summary notes, will contain none of that. No
20 identification. So you can feel confident anything you say
21 will not be attributed to yourself or to your organization.

22 The summary notes will be made part of the
23 rulemaking. The summary notes will also be posted on the OSHA
24 web-site. As you probably noticed, the notice of the meetings
25 is listed on our web-site, under the events calendar. That is

1 where the summary notes will be placed. For those of you who
2 do not have access to the web-site, please give your name and
3 mailing address to Michelle Benjamin and we will have a copy
4 mailed to you.

5 I'd like to thank Dave Grafton, the Region I of the
6 Boston area office, --- liaison for helping OSHA organize this
7 stakeholder's meeting. Your work is very much appreciated,
8 Dave.

9 With me today from the national office is Bill
10 Smith. Bill Smith has joined OSHA. He's been with us for
11 about two months. His last job was the Director of Safety and
12 Health for International Union of Operating Engineers. Some
13 of you may know Bill and some of you may have worked with him
14 on the Crane Committee. You will --- as time goes on.

15 Also, the Facilitator is Brenda McLehan. Brenda is
16 the Assistant Regional Administrator for Administration and
17 Management in Philadelphia. Once I'm done, she will go over
18 the structure of the meeting, speakers' time, and the general
19 discussion and open discussion later.

20 Michelle Benjamin, among her other duties, is
21 timekeeper. She will casually inform the speakers of the time
22 they have left for their speech.

23 Anyway, OSHA's role today is to listen to you. We
24 are allotted this time, we want to hear from the stakeholders.
25 Particularly, the informative comments, the --- comments have

1 been given --- known to have ---.

2 So, thank you for your participation.

3 FACILITATOR McLEHAN: Thanks. Okay, good morning.

4 All right, as Lee told you, my task today is to facilitate and
5 to make sure that things run smoothly and that you have an
6 opportunity to bring your interest and concerns to OSHA's
7 attention.

8 A few, kind of housekeeping things. The restrooms
9 are right across the hallway and we will take a break about
10 9:30 or 10:00 for 10 or 15 minutes, depending on how our time
11 is going.

12 We anticipate finishing today somewhere around
13 11:00, 11:30. And as Lee mentioned to you, we are taping this
14 so that we will have a complete transcript of the meeting.

15 Each speaker will have 10 minutes to speak and
16 Michelle will be your sign when you have two minutes
17 remaining, and another sign when you have one minute
18 remaining. So, just worry about the sign.

19 We ask that when we get to that point of the
20 discussion where we're having people participate from the
21 floor that you step up to one of the microphones, the
22 microphone that's closest to you. And also identify yourself
23 and your organization.

24 Our ground rules for our meeting today are that one
25 person speaks at a time, that we all respect the ideas of

1 others, that we attempt to stick to the schedule and that we
2 also attempt to stick to the topic.

3 Over here, we have the issues that OSHA is
4 particularly interested in and that's not in any way to
5 indicate that that's the only thing that we want to hear
6 about. But these were things that we, information that we
7 sent out to you to let you know what our concerns were. And
8 so, of course, we are particularly interested in that but we
9 are also interested in any information that you have to offer
10 on confined space in construction.

11 And our speakers today. The first group, we have
12 seated at the table. We have Hap Pigsley, from the Wisconsin
13 Underground Contractors; Mr. George Kennedy, from the National
14 Utility Contractors Association; Bob Carbone, from Local 103,
15 IDEW at Boston. My mother was a member of that union. Paul
16 Meade, with --- Boilermakers, Local 29; Philip Prichard,
17 Georgia Tech Research Institute; and Walter Tucker, Petra
18 Construction Corporation.

19 Okay, and are there any questions or any concerns
20 before we start?

21 (No response)

22 Okay, Mr. Pigsley, would you start please?

23 **PRESENTATION**

24 **by Mr. Hap Pigsley**

25 MR. PIGSLEY: Good morning, my name is Hap Pigsley.

1 I'm a Safety Director for Platt Construction. I've been in
2 construction since 1960. I do represent the Wisconsin
3 Underground Contractor's and the Milwaukee GC.

4 We have several concerns. I think the majority of
5 the contractors in Wisconsin have been following the 1910.146
6 standards since it came out in the applicable standards for
7 respiratory professions and so on, like a majority of the
8 contractors have.

9 We do agree that this does need to be addressed and
10 we had five different areas that we felt needed to be
11 addressed in particular. And the one that's the most
12 important I feel is the permit originator. In the proposal
13 for the 1910.146 standards, they addressed the permit
14 originator as a person who was going to write the permits.
15 And when I deal with contractors now -- by the way, I teach
16 trench rescue and confined space rescue. Two fire departments
17 and so on, and I, myself, were rescuer.

18 All too often people go out there and they write a
19 permit without identifying the hazards and the potential
20 hazards. And the potential hazards being the ones that most
21 time that trap or cause the incidents that we as rescuers have
22 to respond to. And I think that's one place that really needs
23 to be addressed. And in --- of the person writing the permit,
24 so that we eliminate these hazards right up front.

25 The permit itself is no more, no less, than a check

1 list to remind us of what we need to address. And all too
2 often when we go out there and have to perform a rescue, we
3 find that to be the failure of the entire program, was that
4 they weren't able or competent enough to address -- the
5 obvious hazards are no problem, it's the potential hazards.
6 The drowning, the lack of oxygen. Those type scenarios that
7 are addressed in the 1910 standard but they don't show up with
8 anybody having responsibility for it. And all too often, I
9 see the contractors out there having a guy on site write the
10 permit, if they do it at all.

11 And I asked them, you know, what did they look for.
12 And they tell me maybe five of the multiplicity of things that
13 can cause harm or entrapment or death in these situations.
14 So, I look at it as being one of the things that's left
15 entirely out of it that needs to be addressed. Who's going to
16 write this to ensure that the person that goes into that
17 environment has the opportunity to address every potential
18 failure.

19 In Wisconsin, we have the entry supervisor and the
20 first entrant as the same person. And that's because in
21 reality, I'm responsible for my safety. So I also ought to
22 have the authority to say, yes, that is safe for me to go in,
23 or it's not safe for me to go in. Use this for the last
24 probably eight years as our concept of how to do sewer entry.

25 My company works from anything from 300 feet in the

1 air to 300 feet underground. And what's --- underground
2 contractor's deals specifically with sewers, underground
3 structures and so on. And we build some of those. And so
4 we've made it mandatory that the first entrant is also the
5 entry supervisor. That looks at that permit and makes sure
6 everything's in place to protect his life. And if he doesn't
7 have the right to do that, I think we're looking at something,
8 or overlooking something that's very important.

9 We try to tell people that the employer will
10 identify the hazards, he will train you of what those hazards
11 are, and give you the equipment to protect you from those.
12 But we don't deal very much on who has the authority to say
13 no. You know, I can be the entry supervisor and I can tell
14 George to go in that hole, but in reality, George ought to be
15 the one that looks at that and says, no, that's not right.
16 It's not going to meet my criteria for entering that
17 environment.

18 So I think what we need to maybe change not so much
19 the entry supervisor as to change the qualification of the
20 number one entrant. And a lot of times we have five, six,
21 seven, eight, ten people going into a confined space to do
22 work. But the number one person is the one that has the
23 responsibility for initial air monitoring, we always do
24 continuous air monitoring. We don't allow any intermittent
25 air monitoring. Any time they're in a tightly confined space.

1 And the attendant's job, of course, is to be the what if
2 person. What if this happens, what are we going to do? How
3 are we going to respond?

4 So I would like to see a permit originator addressed
5 in this legislation. And I would also like to see a tie in
6 between the entry supervisor and the entrant. Give him the
7 authority and the knowledge to make the decision if the permit
8 meets the qualifications.

9 We also have a problem with the controlling
10 contractor concept of what I've seen written so far. And, you
11 know, the contractor is required to come out and evaluate me
12 as a rescuer. And they have no concept at all of what I do.
13 They have no concept at all of what the people have to do to
14 do a rescue. And yet we're requiring them to make an
15 evaluation.

16 Well, my fire departments aren't going to drop the
17 ball or drop what they're doing every time the contractor
18 needs to do an evaluation on them and go out and do a site
19 specific retrieval practice. You know, it's easy to give them
20 the SOPs or demand stuff, but to show them that we have the
21 capabilities of doing it isn't really the way to go. We need
22 to address that in a different mode. What are we going to
23 require of the contractor?

24 And as a general contractor ourselves, we hire
25 plumbers, we hire electricians and stuff to do those specific

1 jobs. And the reason we don't build them is because we're not
2 trained to do them, so why should I be held accountable for
3 their actions. I need to understand that there are confined
4 spaces out there and so on, but if I'm not trained to go in
5 that confined space and make an evaluation of it, how are you
6 going to hold me accountable for it? You know, by law, I
7 can't go into that environment if I'm not a confined space
8 person.

9 So I think that imaging needs to be addressed by
10 this group here on how we're going to be a little more
11 definitive on these things. All these things seem to be way
12 too broad for us to really give the contractors a way of
13 dealing with this.

14 There's a portion there about early warning systems.
15 We do sewer work. We have gone 300 feet underground in these
16 tunnel projects, etcetera. And by the time we hear the roar,
17 it's too late. We do need early warnings. And the way we do
18 it is we look at the weather people, we have early warning
19 through the weather departments. We go to the sewage
20 districts and we look at what their lockouts and their
21 diversionary capabilities are.

22 And we divert the waters and so on so that there's
23 no chance of them coming into our area. So we use half dikes,
24 we use plugs. There are a lot of different ways of doing it
25 and I don't think that you can legislate a particular way of

1 doing anything. Because you have to have construction
2 knowledge in order to get in there and put in -- maybe they
3 don't need a half dike. Or maybe by going down to the local
4 water treatment plant, you can get the diverted from whatever
5 and get a lock out, tag out program to make sure it doesn't
6 come back.

7 We were working the water treatment plant and they
8 back flushed into our area with chlorine gas. And went down
9 there to find out what happened. And it was because they took
10 our lock out. So, there are requirements that the contractor,
11 or things that a contractor schedule in our safety program,
12 but I think by and large, it's going to depend on how the
13 permit is written.

14 And everything in this whole thing, as far as that's
15 concerned, comes back to the permit. In our company, there
16 are only two people allowed to write the permit. That's me
17 and my right hand man. And we allow no one to go there unless
18 one or the two of us was in there before and understand.

19 So I think a lot of attention needs to be paid to
20 the person that creates the permit. What is the skills,
21 knowledge, training and so on. And I've heard a lot of people
22 say, well, it's just common sense. Well, common sense is how
23 we react to a situation in direct proportions to our training
24 and knowledge and experience involved in that.

25 You know, if I were to ask the majority of people

1 and there was line pressure on a turbo 3400 in reverse,
2 nobody's going to know until the mechanic is -- you know, and
3 common sense, you know, 300 pounds. So, when we hear people
4 say --- heavy, it was common sense to do that, well, if you're
5 not training in it and you don't have experience and
6 knowledge, it's not common sense. And that's where the errors
7 show up.

8 That's, basically, all I have to put in at this
9 time.

10 FACILITATOR McLEHAN: Okay. Thank you Mr. Pigsley.
11 Are there any questions for Mr. Pigsley?

12 (No response)

13 Okay, Mr. Kennedy.

14 **PRESENTATION**

15 **by Mr. George Kennedy**

16 MR. KENNEDY: Thank you. I'm George Kennedy and I'm
17 the National Safety Director for the National Utility
18 Contractor's Association. Our members are primarily involved
19 in underground utility work, the construction of sewers, water
20 lines, gas lines. Now, we're reaching out and we have members
21 in the telecommunications industry as well as electrical. And
22 so, basically, anything that goes underground, our members
23 could be involved with the digital and horizontal directional
24 drilling. They're doing boring jobs, they're doing tunnels.
25 Again, anything under the ground.

1 And we, the National Utility Contractors, have had a
2 confined space awareness program in place for our membership
3 for oh, about seven or eight years now. And we've trained
4 around the country about 10,000, 12,000 people. And this
5 training is done by our group of instructors. We have
6 independent instructors who are, by our association, go
7 through our instructor training program and teach this
8 program. Hap happens to be one of those people.

9 And most of -- I shouldn't say most, but they're all
10 very highly qualified and involved in the industry. So we're
11 looking at a lot of different things. We've been using the
12 permit required confined space standard from general industry
13 for years as our guideline to confined space entry. We know
14 that our members don't have to comply with every portion of
15 that, but we still have been using it as a good teaching tool.

16 Primarily, we did that because the ANSI Standard,
17 NIOSH criteria documents and anything else we could find on
18 the market is similar to general industry and, quite frankly,
19 might as well use that as free. I have faith in ANSI
20 document.

21 But our members are getting involved as they're
22 entering into manholes and pipes and underground walls and, in
23 some cases, tunnels and culverts and waste treatment plants.
24 And I'm just trying to stress the issues here. New and
25 existing lines is a big part of our work, and putting in new

1 line. But our graduates are also doing rehab and inspection
2 work. So they are in and out of confined spaces on a fairly
3 regular basis.

4 For the most part though, most of the members are
5 not actively involved in permit required confined spaces
6 because they don't run into them that often, except maybe when
7 they're working in some of the sewer lines or working near a
8 potential hazard that might have been near a sewer treatment
9 plant or a garbage dump or even leaky lines, in some case, gas
10 or sewer.

11 So they're involved in a lot of this. And like Hap
12 has mentioned here, we use permits. Or they use them when
13 they're required. We have people monitoring upstream. The
14 good contractors are already planning for that. They go
15 upstream, one or two manholes upstream, and they will, of
16 course, check the weather first for the day and the afternoon
17 so they know what's coming. And post a watch upstream, or up
18 the pipeline, at one of the other manholes. And radio
19 communications with ANSI supervisor or the attendant, whosever
20 standing by at the space down below.

21 They also use pipe plugs and diversion and flow
22 control. One of the contractors had referred to it as
23 throttling the flow by putting a plug partially in and letting
24 some leakage. As Hap mentioned, they also do dikes sometimes.
25 Bypass pumping is also used.

1 But when it comes to entry into the confined spaces,
2 we try to stick with the rules and permit required. We use
3 continuous monitoring. A lot of the members are now using
4 continuous monitoring on all jobs. Some are still just doing
5 it in the permit required jobs and using some periodic
6 monitoring when they do an alternate entry or non-permit
7 spaces.

8 I do have a problem with the term periodic in the
9 standard. I think we should either define it or eliminate it
10 because it leaves too many wide open-ended situations that
11 could cause problems, both from a standpoint of the attendant
12 or entry supervisor knowing how often they're expected to
13 test, as well as the possibility of OSHA citation.

14 Because you say you're going to do it every hour and
15 something happens, OSHA comes along and says, well, you should
16 have did it every 15 minutes, so we're going to cite you. You
17 didn't do a periodic analysis. So I always had a problem with
18 that.

19 I don't have a problem with continuous monitoring on
20 permit required confined spaces. The instruments are there,
21 the equipment is available, it's not a difficult thing to do.
22 Especially in a permit required confined space, it doesn't
23 require any additional labor. You've got an attendant
24 standing by anyway, you might as well post him there with a
25 monitor and let him monitor the permit required confined

1 space.

2 We find some of the contractors do have a problem
3 with the cost of rescue equipment and such like that. And we
4 do have a little bit of a problem with that, similar to what
5 happened. As I said, I have been involved in rescue training
6 throughout the country, working with fire departments and
7 other groups and we have actually a program we call Bridging
8 the Gap where we actually get together with local fire
9 services and train together as contractors and firemen. And
10 this has been successful.

11 We do have a problem with the concept of evaluating
12 and, especially performance evaluation of a fire service. It
13 may be possible in some areas, but when you get out in the
14 outlying areas, like we have volunteer fire departments,
15 realistically, they are not going to set up and do a
16 performance drill for you so you can evaluate them. We need
17 to rely on them to come up with a standard operating
18 procedure.

19 And, actually, I'd like to recommend that OSHA
20 consider finding funding to help the fire services training
21 their people so that they're ready to help us. Because
22 they're going to take over the job anyway. There are more,
23 but I'm out of time.

24 FACILITATOR McLEHAN: Thank you, Mr. Kennedy. Mr.
25 Carbone?

1 accused me of being quiet before.

2 (Laughter)

3 The very nature of our jobs. The chemicals that we
4 introduce into the spaces, the combustible gases, the
5 propanes, the PVC ---, the equipment that we use.

6 Some of the examples that obstruct or impair the
7 spaces, the very means that we use to access, some of our
8 confined spaces are not necessarily below grade, they're above
9 grade. And we use aerial lifting equipment to access those
10 spaces. Portholes, covers and/or the ladders in the
11 convoluted equipment that we use can limit and restrict our
12 means.

13 Equipment that we use in the space that can impair
14 our rescue, some of the pulling equipment, some of the racking
15 systems. For you gentlemen that are in the construction of
16 manholes and do utility work, you'll know that the energized
17 cables are there. Especially, when you start to get to your
18 medium and higher voltages, it's 15,000, 65,000 volts. You
19 have those cables that will impair your rescue.

20 I have some pictures that I will provide to you.
21 The form work is intrical into the construction of the job and
22 it's not necessarily a straight shot. And some of your fire
23 departments that are here that do tour the central outer can
24 describe to you the intricacies of some of the buildings where
25 rescue will almost become impossible in the event that it

1 needs to be conducted.

2 And as far as your early warning hazards, I have to
3 steal a quote from someone that says, "Make the space safe for
4 the worker, not the workers safe for the space. Eliminate the
5 hazards in the space, not try to provide the worker with all
6 the extra equipment to make him safe. Make the spaces safe as
7 possible for that worker."

8 As far as early warning systems for the construction
9 industry. A little different than you guys would do, some of
10 your sewers and waters. There aren't a lot of early warning
11 systems provided for us. So I don't know how to accomplish
12 that. As far as the electrical end of it goes.

13 Atmospheric hazards, the continuous monitoring is
14 absolutely a must. I agree with George, the periodic
15 monitoring is very vague and does not describe it to us
16 enough. It should be continuous monitoring. The price of the
17 gas has come way, way down in the last few years and it needs
18 to be afforded to the employee while the employee is in the
19 space.

20 Continuous monitoring would provide the employee in
21 the space with an assurance that he is covered. He
22 understands that if a hazard enters the space, he doesn't
23 necessarily have to worry about it. We have employees working
24 in a fertilizer plant, you know, in a ---, where they had a
25 backup in the system. Now, water leaked in, the water was

1 contaminated. It tipped the scale on our hydrogen sulfide and
2 we had to evacuate the space. With continuous monitoring, it
3 may not have been detected.

4 Ways to make the standard more acceptable to smaller
5 businesses, like George said, you provide grants. Provide the
6 information and the equipment. The biggest thing is training.
7 I am an instructor at the local apprentice school and you
8 people would be appalled at how many people do not receive the
9 training they need prior to entering the spaces. Even
10 mandatory by the 1926 standard, these people do not get the
11 training that they need, provided by their employers.

12 As far as attendant supervisors doing collateral
13 duties, typically in the construction industry and our
14 business, the attendant is typically the apprentice. The
15 apprentice by the very nature of his description does not have
16 the experience necessary to be a qualified attendant most of
17 the time. He's the cheap help. He's the \$3.00 an hour, \$4.00
18 an hour minimum wage guy that you stick there. He should be a
19 supervisor at a minimum, or at least someone that's qualified,
20 a journeyman that has those qualifications.

21 As far as the supervisor being assigned as the
22 attendant, typically in the construction industry the
23 supervisor has a lot of collateral duties. He's trying to
24 watch more than just the people in the space. He's trying to
25 watch the crew down the street, the crew up the other end of

1 the building and he cannot effectively do that.

2 As far as the attendant being allowed to monitor
3 more than one space, again, there are a lot of variables. The
4 locations of the space, the types of space, the weather
5 conditions. We're outside 24 hours a day, seven days a week.
6 When it's snowing, when it's raining, when it's 95 and when
7 it's 110 out. So a lot of those things will play on what the
8 attendant can do or how he can facilitate different rescues or
9 different spaces.

10 Again, the experience the apprentice plays into,
11 whether the apprentice can monitor more than one space. And
12 again, obviously, the physical distance of the spaces.

13 As far as the supervisors monitoring, I want to
14 quote one of your standards or one of your preliminary
15 standards from the 1910.146 standard came out, it went out to
16 OTI. And one of the sheets they passed us out said, of 89
17 percent of the fatalities investigated that year, the
18 supervisor were present at the fatality. Eighty-nine percent.

19 And as far as continuous monitoring, again, I wanted
20 to stress that that is a must. Periodic is just too vague.
21 It doesn't describe it enough.

22 As far as rescue goes, the one thing that's always
23 bothered me personally about the rescue of -- the way the
24 standard is written as far as rescue goes, it says only one
25 member of the team has to be CPR and first-aide trained. And

1 drums, steam headers, tanks, air heaters, duct work,
2 condensers, fans and almost every other phase of a
3 boilermaker's work.

4 To us, confined space comes in all shapes in sizes
5 from opening the boilermaker, from opening the boiler door to
6 the tank ---, to the working in very small steam rooms, super
7 heaters, ---. Boilermakers find confined space in almost a
8 large percent of their jobs.

9 A lot of the instructions that we run across, just
10 like Bob was saying, faulty placed manholes and manways,
11 piping, building steal. If they'll put a confined space
12 opening someplace, I'm convinced they'll put something in
13 front of it just to make it harder for you to get out.

14 This has been part of our problem in confined
15 spaces. Not so much getting in and working there, but the
16 obstacle of once you're in the confined space are a problem
17 for us. Such as getting into duct work, ---. We had an
18 incident up in Bolle, New Hampshire just recently where they
19 had some men who were involved with some fly ash. Luckily, we
20 only had some people burned. They weren't burned too bad, but
21 the potential was there for somebody to die.

22 These are the things that have to be monitored. You
23 can train your people. We do, like every boilermaker in Local
24 29 has been through a 10 hour OSHA course, including the
25 confined space aspect of that. We train a little harder in

1 confined space and rigging, naturally, because those are the
2 things we get into a little more in-depth in other trades.

3 But what we try to do here is we try to instruct our
4 people how not to panic in a confined space. And that's part
5 of the biggest problem we have here.

6 The main thing is we're trying to get across, I
7 think, more than anything else is to get a standard in the
8 construction industry, and not just out of the general
9 standard that will apply to us and eliminate some of the
10 questions that are out there for our members and some of the
11 contractors that have to do the work. If it was in the
12 construction standard, I think it would be a lot easier for
13 everybody to understand and go along with.

14 On the using the multiple attendants on the permit
15 required confined spaces, with multiple entries and exits,
16 there's always going to be a chance that you'll have multiple
17 problems. Anything that you've got multiple entrances, you
18 can have problems at the same time in different areas with one
19 person trying to cover it. It sounds far fetched, although
20 we've all seen accidents, looking at them in hindsight, that
21 really shouldn't have happened. I think if we're going to
22 have attendants at these confined spaces, than that's what
23 their job should be.

24 If you've got an area of confined space where you've
25 got two holes next to each other, sure, there might be a

1 physical possibility where one person can cover both of those.
2 But for the most part, our experience has been that you've got
3 a confined space in this area, 25 to 30 feet away you've got
4 another confined space facing in the opposite direction. So
5 that person out there really can't maintain both of those
6 exits at the same time and have communication and feel it's
7 going to be safe for both of those areas.

8 With given one confined space entry hole at a time,
9 one man should be guarding that hole. Unless there again you
10 take a look at it and you can see that one person can actually
11 cover both of these all at the same time. As far as the
12 supervisors becoming hole men, experience in our trade has
13 taught us that as soon as that supervisor has another problem,
14 whether it's relating to the job or not relating to the job,
15 he's probably going to go somewhere. And you're going to get
16 somebody to replace somebody at that hole, we don't know.
17 When we finally have a boilermaker assigned to that hole, he
18 knows what his job is, that's where he's going to stay.

19 Another problem with that guy out front, and I go
20 along with what Bob had to say, is the people sitting out
21 front are not being trained. We have companies that want to
22 use any other trade, a laborer or anybody, to watch that
23 outside hole with no training and no idea of what that man in
24 that confined space is doing. That's another thing that we
25 consider very important in this business.

1 by Philip Prichard

2 MR. PRICHARD: Good morning. I'm Philip Prichard
3 with Georgia Tech Research Institute. Basically, I work for
4 training in the OSHA Training Institute we have at Georgia
5 Tech. Also, we do consultation. I retired from the fire
6 service with 30 years experience and my last job was Assistant
7 Chief of Training in the Safety Office.

8 One of the things at Georgia Tech that we see a lot
9 in our training, that a lot of questions on construction
10 that's not clear cut may be some of things that are basically,
11 1910.146. But then when we look at 1926.21, we've got the
12 definition there that addresses the four foot depth, really
13 doesn't have that 1910.146 you're looking at day three under
14 the rescue portion, that states that you've got to use a
15 retrieval system and be wearing a harness unless it proves as
16 additional harm. If we are over five feet and that -- I think
17 those need to be consistent.

18 Also, when we look at 1926.21 and the other
19 construction standards, we really don't address what is a
20 permit required confined space. I think we should make these
21 consistent across the board where it says for a confined space
22 in 1910.146 and what is a permit space.

23 When we look about the characteristics of confined
24 spaces, now when OSHA came out with appendix F in February of
25 '99, they had four there that listed internal configuration,

1 elevation, portal size and space access. I think these should
2 be incorporated as part of the standard, not being in the
3 appendix itself because we've got some good information there
4 under internal configurations, it says either open or
5 obstructed. When we look at obstruction, a lot of times in
6 the construction industry, you'll look -- if we're taking in
7 ladders or other equipment to do work in here, that can fill
8 the needs of it.

9 When we look about elevation, it says elevated or
10 non-elevated. The only thing about it, in the appendix there
11 it says elevated, the portal opening is greater than four feet
12 off the ground. Not totally comparable with that because even
13 though that's over more than four feet off the ground, we've
14 got to look at the anchor point. What are we going to hook up
15 a retrieval system to? What are we going to use to get
16 somebody out if we've got to have a retrieval system with
17 that?

18 And so I think that needs to be a little more
19 addressed in there and make that a little more definitive.
20 When we look about portal size, we look about restricted and
21 non-restricted. That's broken on the 24 inch here. Now
22 pretty much everybody in this room, this is a 24 inch square
23 than you're going to be able to go in or out of. Twenty-four
24 inch round opening, you're going to be able to go in and out.
25 Now, we've got a 24 inch oval opening, it's going to get tight

1 for some of us here in the room. Well, what about if we've
2 got to rescue somebody? What about if we've got to put them
3 on a backboard? What about if we've got to put them on
4 the ---? We've got to look about how we're going to get
5 those out.

6 So, we need to kind of clarify these a little more
7 by the shape of the opening, not just the size of the opening.
8 And when we look about space access that -- where Paul brought
9 up, a lot of times these are obstructed. They'll make an
10 opening here, they'll put a pipe in front of it or they'll put
11 an air handling unit. We need to look about how we can get to
12 these, not just horizontal and vertical.

13 And again, when we look about, you know,
14 obstructions that are going to impair these, we look about
15 what we're doing. Basically, we're either building these in
16 the construction industry or we're doing maintenance on them.
17 A lot of the equipment we have will obstruct these.

18 When we look about the government concerns, I agree
19 with Hap about where we gather the damning and diving, but
20 we've not got that one system out there that's going to work
21 in every case.

22 We've got to monitor things like the weather and all
23 and not just have some type of device or somebody on a radio
24 that's going to let us know. We've got to evaluate each
25 situation, not necessarily is one thing going to work for

1 every incident.

2 On the continuous air monitoring, I believe we
3 always need to do this. But one thing about it, when we're
4 doing the air monitoring, we need to monitor different levels,
5 not just have that person in the space because we've got to
6 look about vapor density. And because we've got some gases
7 that are lighter in air, some that are heavier. So we've got
8 to monitor at different levels due to space.

9 We also got to look about our sequence. In 1910.146
10 it tells us to monitor for oxygen, flammability and toxins.
11 We go to put our probe in there and we've got a gross of
12 atmosphere, we just wiped out the sensory. So we need to
13 measure for prosivity first. And one thing that's going to
14 save us some money that it would wipe out the other sensors or
15 our meter and all, we could do that with PH paper or PH meter
16 or something. But we need to address the prosivity issue.

17 When we look about the monitors, ideally that person
18 is -- our entrant is going to be wearing a monitor and our
19 attendant will have one. Use something as a cross section.
20 We look about three or four gas monitors now and you can buy
21 one for about \$1,200.00. And excellent meter that we've got
22 out there.

23 The attendant duties, monitoring more than one
24 space, we've got to look about the distance. When we look
25 about the distance, now if we've got a space at the end of

1 this table or one at the end of that one, one person can
2 pretty much monitor that. But if we've got one in the back
3 corner of this room, versus the front corner here, one person
4 is not going to do that.

5 We have that incident at Dulles Airport and the fuel
6 --- aircraft and one attendant, basically, he was about 10
7 feet from the --- entrance on it. And one person died from
8 that. So we've got to look at the situations. We've got to
9 look about the hazards that we have on those.

10 Also, our entry supervisor, we've got to have
11 additional training for that person. And whoever is preparing
12 that permit has got to understand the different duties, the
13 different hazards that we have. Not just because, you know,
14 you are going to issue the permit today, they've got to
15 understand the hazards.

16 And we've got to look about the different hazards,
17 such as engulfment, changing circumstances, they've got to be
18 aware of these. Again, we look at the permit, this is nothing
19 more than a safety check-list that we have on these, so we
20 need to make it safe for our workers.

21 We also need to address, if you look in 1926.352 on
22 welding and cutting, this addresses a number of issues about
23 welding in confined spaces. The other's need to be
24 incorporated into the standard also.

25 We seem to get more questions about those in the OTI

1 programs than most people wasn't even aware that you've got
2 different training. It says we've got to attend them with a
3 preplan rescue plan that will be assessful if we're doing
4 welding. It doesn't say that in the other parts of the
5 standard. So we've got to be aware of that.

6 When we look about the underground construction, we
7 also need to look at the requirements that's listed in those.
8 We also need to look about the respiratory standard. What it
9 looks about IDLH atmospheres and what criteria that we have in
10 those.

11 Truthfully, I don't believe that we totally need a
12 whole new standard. Why not do something like we did in the
13 Power Industrial Truck Standard. Make this across the board
14 here, maybe have some specific paragraphs that address these.

15 And one thing that we do need to look about, and
16 where Hap brought up about the rescue, a lot of time on
17 construction sites they'll soon then call the fire department.
18 You've got the fire department training. We looked in
19 Appendix F, it says we should have a least a verbal agreement,
20 ideally, a written agreement that we will have -- and most
21 people don't assume that we have a viable rescue team. And
22 that's something I think we should look about.

23 That's all I have.

24 FACILITATOR McLEHAN: Thank you very much, Mr.
25 Prichard. Mr. Tucker? Excuse me, are there any questions for

1 Mr. Prichard?

2 (No response)

3 **PRESENTATION**

4 **by Walter Tucker**

5 MR. TUCKER: My name is Walter Tucker. I am the
6 Director of Safety for Petra Construction Company in New
7 Haven, Connecticut. We're a relatively small construction
8 company, unlike my compatriots here on the panel. We don't
9 get down 300 feet in the ground, we don't get up 300 feet in
10 the air, we don't do a lot of more complicated things. We
11 build houses, we build small commercial structures. And we
12 face some vastly different problems that many of ---.

13 I also have several years of experience in the
14 chemical industry. I worked for Sika Industries for a number
15 of years and I can tell you that the problems faced with
16 entering a confined space which would be defined as a vessel
17 tank, silo, or something of those lines, particularly, in
18 atmospheric hazards, are vastly different than the problems
19 faced with entering a more generic type of a confined space.

20 We have to look to the definition of confined space.
21 Is it large enough to enter? Is there a restricted means of
22 entry and egress? And is it not designed for human occupancy?
23 Boy oh boy, is that something for interpretation. Not
24 designed for human occupancy.

25 One of the spaces that we get into is a telephone

1 cable entrance facility. Now, a cable entrance facility could
2 be an underground vault, but in our case it's not. In our
3 case it's a big room in the basement of the telephone
4 company's central office. In our case, when I say a big room
5 I'm talking about a room about 50 or 75 feet long with doors
6 at each end. And we're talking three foot wide doors that are
7 six foot, eight inches high, just like any other door in the
8 world.

9 Very often, we're talking about a room that has an
10 alarm system on it that's got a monitor for oxygen deficiency,
11 it's got a monitor for hydrogen sulfide, and a variety of
12 other things. And very often, that built in monitoring system
13 is far more sophisticated than any I could possibly bring on
14 to the site.

15 The difficulty is that the current confined space
16 standard requires me to use a direct reading instrument. And
17 they're alarm system isn't a correct reading instrument. Even
18 those more sensitive than mine, I have to use mine. That
19 doesn't make too much sense to me.

20 The other thing we have to be concerned about is the
21 definition of construction itself. Construction can be
22 construction to alteration and so forth, as opposed to
23 maintenance and repair. Oddly enough, I actually read an
24 interpretation of an OSHA standard that said if you're going
25 to paint a room, that's painting, that's construction. But if

1 you repaint it, now that's maintenance. It doesn't make any
2 sense to me. You're still putting paint on a surface and on
3 one hand it's construction and on the other hand it's not.

4 And the problem is when you get into some of the
5 other standards, as in the telecommunications standard, the
6 second one in the telecommunications standards says this does
7 not apply to construction.

8 So why have a fellow who's in a cable entry
9 facility, who's installing a hazardous gas detection
10 monitoring system and, by virtue of the that, what I mean is
11 he's basically running a conduit, drilling a couple of holes,
12 putting a couple of army brackets on, snaking the wire,
13 putting in the detectors. He's doing, essentially, the same
14 work that a telephone company employee would be doing in that
15 same facility, and yet the requirements are vastly different
16 for the two individuals.

17 Why? Because my guy is undertaking construction.
18 The telephone person is doing telephone work, whatever that
19 means. Because that's not defined either.

20 So it seems to me that we need to pay more attention
21 to the manner in which the construction standards dove tail
22 into the other standards. Whether it's general industry or
23 whether it's any of the various specific special industry
24 standards that we have up there.

25 Another problem we get into is elevator pits. And

1 when I say elevator, I'm just talking about a pit probably,
2 oh, eight feet deep. We're not talking about an elevator for
3 a skyscraper, we're talking about an elevator for a three
4 story building. Okay, it has nothing in it, nothing what so
5 ever. Is it large enough to enter? Absolutely. Does it have
6 restricted egress? Absolutely. You've got to climb down a
7 ladder to get in there. Is it not designed for human
8 occupancy? Nope.

9 So, therefore, it's a confined space. Is it a
10 permit requirement confined space? Doesn't have a hazardous
11 atmosphere. Indeed, if it's an interpretation of 1910.146,
12 that discusses elevators, and points out that, generally
13 speaking, the only atmospheric hazard you're going to get from
14 an elevator pit is one that's introduced from the outside.
15 For example, if you're working in a chemical plant, where I
16 used to work. And, theoretically, there are vapors or gases
17 that might be heavier than air that might get trapped down at
18 the bottom of that pit and cause a problem. But when I'm
19 building an elevator pit, there's just no atmospheric hazard
20 down there. What we're talking about is an eight foot hole.
21 There's not an atmospheric hazard.

22 The hazard is the kinetic energy hazard. The hazard
23 is when the guy goes to the top of that pit and ends up
24 blocking tackle, and now all of a sudden they run the risk of
25 this big thing falling down and landing on the guy at the

1 bottom of the shaft, now that's a genuine hazard. I'll go
2 along with that. But my point is, that strictly speaking, as
3 soon as we hang up that blocked tackle, now it becomes a
4 permit required confined space. Now I have to have rescue
5 procedures.

6 Now, this is not rocket science to get the guy out
7 of an eight foot pit. There's not an atmospheric hazard. And
8 this is what I'm asking OSHA to address is the numerous
9 confined spaces that are out there, where the hazard is going
10 to be a hazard of kinetic energy. The hazard of something
11 falling on the guy. Or possibly an electrical hazard. When
12 the electrical hazard is simply the temporary lighting that
13 you put in next to the guy that's working down there can see
14 what he's doing.

15 Finally, I'd like to take a moment for us to wonder
16 why it is that OSHA can impose various constrictions on fire
17 services in terms of their turn out here and so forth. You
18 know, why do they require the fire services to be trained in
19 confined space entries? Why lay the burden of confined space
20 rescue entirely on the builder? Why not shift a little bit
21 more of it to the fire service? Why should I be in working in
22 a town, call the fire department and they haven't the vaguest
23 idea of how to do a confined space entry?

24 So I wonder whether we need to adjust those
25 regulations as well. I should be able to count on the fire

1 department to at least have a moderate knowledge as to how to
2 get somebody out of that space.

3 Thank you very much.

4 FACILITATOR McLEHAN: Thank you, Mr. Tucker. Are
5 there any questions for Mr. Tucker? Yes?

6 MR. PIGSLEY: I do want one clarification. The fire
7 departments do fall under OSHA standards. We do have to
8 protect our people when they go into environments, and like
9 you brought up one of the things that has not been addressed
10 in the fire service's entry into confined space entry, and
11 that does need to be addressed by OSHA.

12 FACILITATOR McLEHAN: Okay. Any other questions or
13 comments for any of the members of this first group of
14 speakers?

15 MR. HAWKINS: I have just a comment about this.

16 FACILITATOR McLEHAN: Sir, excuse me. Would you
17 come over to the mic please and say your name and
18 organization?

19 MR. HAWKINS: You bet. My name is Dusty Hawkins.
20 I'm with Univoice. We manufacture rescue gear. And I've just
21 been listening to everybody here and we've got some people
22 that are saying the fire service needs to be trained in
23 confined space and on the other end you've got people saying
24 there's huge variations of the types of spaces that we're
25 going into. And I am out every day myself. I deal with a lot

1 of companies like yours. I also deal with the fire service
2 and deal with the general industry and deal with the regular
3 confined space in the industry.

4 And just to address why I think we couldn't ask the
5 fire departments to be trained or demand it is that there's
6 just too many types of spaces. So, they're not really going
7 to be able to be prepared for every single type of space and
8 has to wage a bunch of money to do it. And we just think it's
9 impossible.

10 FACILITATOR McLEHAN: Okay. Thank you.

11 MR. TUCKER: Could I respond to that?

12 FACILITATOR McLEHAN: Certainly.

13 MR. TUCKER: That also points to a flaw in the
14 existing confined space regulations, which requires the
15 construction company to train his people for entry into
16 confined spaces. I don't think that that's real possible in
17 the sense that the states, they are so varied.

18 The knowledge that you need to have to enter, for
19 example, a cable entrance facility, a telephone cable entrance
20 facility or an elevator pit, is a vastly different set of
21 knowledge that you might need to, for example, enter a formal
22 and reactor vessel at Zytech. They are way different skills.

23 And it would seem to me that if a company in general
24 industry is to hire a construction company to go in and work
25 in his confined space, than the burden of training should land

1 on the general industry company rather than on the
2 construction company. Because the situation is too vastly
3 different.

4 MR. HAWKINS: Right. And I think that the company
5 that they're going to work for, who the contractor is working
6 for to build their project, should throw into their bid money
7 what it takes to get trained or hire a rescue team to come out
8 for that site. And that should be -- it does fall on the
9 company that's asking to build the project.

10 FACILITATOR McLEHAN: Thank you. Yes, Mr. Flanagan.

11 MR. FLANAGAN: Yes. I'm a speaker and my name is --
12 - Flanagan. I'm a --- Rescue Coordinator for the
13 Massachusetts Fire Fighting Academy. I'm also a -- I have my
14 own training business and I'm deeply involved in technical
15 rescues. I'm a safety officer for the Massachusetts Task
16 Force, one of them being an --- Search and Rescue Program. I
17 have a lot of background in a lot of these areas.

18 I respectfully disagree with the gentleman from
19 Univoice. The fire service, we aren't specifically trained in
20 everything we do day in and day out, whether it be fire
21 suppression, EMS calls, whatever. We are trained to be able
22 to react to situations. And if the proper funding is out
23 there and you don't get locked into having site specific
24 equipment -- one of the problems is with the industry, the
25 industry tries to tell the fire service what they should buy

1 for equipment. And too often, dollars are spent on site
2 specific appliances and equipment for jobs. If people are
3 trained to be thinkers, not grunts, and learn how to basically
4 diagnose the situation, use their training and education, it
5 can be done. It's just a question of the funding being put in
6 the right place.

7 One of the road maps that's helping that now is the
8 NFPA in 1999. It just came out with a standard called NFPA
9 1670. It's entitled, Training and Operations in Technical and
10 Rescue Incidents. It's a road map for the fire service to
11 what they need to do to be able to handle specific things.

12 One of the disciplines in this confined space
13 rescue, it's very detailed in what --- a technician level, you
14 need to be trained to. What needs to happen is --- industries
15 and the fire service need to get together to see that the
16 funding is out there so this kind of training can trickle down
17 to the first line of fire fighters.

18 Because the bottom line is we're going to be there
19 any ways and, historically, when the fatality numbers of
20 serious injuries of then would be rescuers, there is never
21 going to be a situation where the fire services is not going
22 to be there, whether it be --- or volunteer. We just need to
23 sit at the same table and identify these different regulations
24 and get together on --- think it could be worked out.

25 The fire service, I know in ---, which is

1 primarily ---, especially, the --- Boston Professional are
2 ready and willing to provide the service, they just need to
3 identify the funding to get the equipment to do this type of -
4 -- training. And I've had people make very successful, very -
5 -- rescuers. And --- anything with practice, they just know
6 how to do their job because they are professionals and I
7 respectfully disagree with that last comment.

8 FACILITATOR McLEHAN: Mr. Kennedy?

9 MR. KENNEDY: I agree with Charlie and I do disagree
10 with the prior speaker in that if you're going to have the
11 contractor to deal with their own rescue, you're talking about
12 having to train the worker in some cases, workers there are on
13 a high turn over mode from one company to another.

14 And you're going to have to train that guy to do
15 more than just enter the space. He has to be trained to
16 package the patient, handle the patient if the patient's
17 injured and get the person out of the hole. And it's a very
18 difficult task to train that.

19 The fire services have more experience in this area
20 of removing people from, of course, building that have burned,
21 buildings that have collapsed, automobiles, and other
22 situations. And they are the best people to train because
23 they're experts in doing that and handling a situation.

24 If you've got a contractor group and now our guys,
25 for example, are two, three and four men crews out there, one

1 guy down in the hole and he's trapped, the other three may not
2 be enough people to do a proper rescue. So we teach our
3 people, dial 911 first. That's the first thing you do.

4 And then maybe if the hole hasn't been ventilated,
5 and it should be, but then set up the ventilator and get some
6 air down there and start moving, evaluating the situation so
7 when the fire service can show up you give them the
8 information.

9 But one way or the other, we're going to dial 911
10 and in nine out of ten situations, the fire service is going
11 to show up and the guy getting out of the right seat of that
12 fire truck is in charge. Where they don't care if you've been
13 trained or you've got a supervisor or an owner on the job, it
14 doesn't matter. That lieutenant, that captain, he's the man.
15 He's in charge, he's taking over that job site right then and
16 there. And they're going to pull your people in most cases
17 from the space.

18 And that means they're going to do the rescue. So
19 in that respect, I think they need to be trained and then
20 money needs to be provided so they can get the training. Yes,
21 we can coordinate our efforts with them and invite them out to
22 the site so they can see what they're dealing with, see if
23 they can handle that kind of thing if they want to do that.
24 But they are going to be doing it.

25 I mean, they're firemen, but the world is changing

1 and the technical rescue services are becoming a part of every
2 fire service. And then, you know, we go out and they tell us
3 to buy the equipment. Well, we buy the tripods and we buy
4 other equipment and keep it on the site and if they come on
5 the site and see if you've -- in use, chances are they are
6 going to move it out of the way and use their own equipment
7 because they don't trust your equipment to begin with.

8 So it just becomes a waste of money. I'd rather see
9 the money go to the fire services and help them get their
10 people properly trained. Again, they're trained in first-
11 aide, CPR, their EMTs on their squads and they're ready to
12 handle it. And they just need some training.

13 And in some situations, obviously, there are some
14 big facilities, petro-chemical plants and things like that,
15 where maybe specialize coordination between the fire services
16 and the particular company may be necessary. But I think
17 that's being done in a lot of areas where there are big ---
18 IBM and Union Carbide, people like that, are already doing
19 that if they don't have their in-house people. And even then,
20 they're still coordinating their efforts with the outside
21 teams.

22 So I think we need to really look towards the rescue
23 services for their help. And Hap pointed out, we hire
24 electricians and plumbers and pipe layers and operators and
25 they're pros at what they do. But, they're not rescuers. And

1 fire service people are pros in what they do. And I think
2 we're endangering the lives of workers by making them perform
3 rescues if they're not properly trained.

4 Annual training once a year, that's a bunch of
5 nonsense. It's not enough. It won't work. And I'm afraid
6 we're going to end up with people left in a hole because we
7 didn't respond properly. We didn't have the equipment or we
8 didn't have the proper training. Or we had turn over and now
9 we only got one guy trained on rescue on our crew and the
10 other two guys haven't been through the program.

11 And realistically, there's not a contractor out
12 there who can run a trench rescue training program every month
13 so he can have his people up to speed at all times. It's just
14 not going to work.

15 MR. TUCKER: And the follow up to that would be that
16 in the State of Connecticut the fire chief is in charge. If
17 you call the fire department and he shows up, --

18 MR. : In most states it is.

19 MR. TUCKER: -- he is -- well, I can't speak for
20 most states. All I'm pointing out is if he wants to evacuate
21 the building, everybody that's there is out of there and the
22 fire department is going to do the job. It's out of my hands.
23 We have to be cognizant of that.

24 MR. KENNEDY: For the most part, it's a national --
25 for the most part, it's a national requirement, the fire

1 chief, the lieutenant, the officer that gets out of that right
2 seat of the truck is in charge until his chief comes on site
3 and his --- commander gets on site and they take charge. And
4 they're going to run the job. And they're going to run the
5 rescue.

6 And the volunteer fire departments and other fire
7 departments, even some big cities do turn down the job. We
8 won't do confined space rescue they say. But in reality, you
9 call 911, they show up anyway and they're going to take charge
10 of the scene. And if we're going to do something, let's try
11 to help those volunteers or those departments that don't have
12 the money get the proper trainings and work with them and help
13 them to be ready to help us in a situation. It's a team
14 effort.

15 FACILITATOR McLEHAN: Yes, sir?

16 MR. MEADE: Yes, I'd just add that, and nothing
17 against the fire fighters because they're my favorite people,
18 believe me. But I think what we're losing here is if that
19 person standing next to the hole inside of a minute, or less
20 than a minute, could either save somebody's life or --- their
21 life. That's why it's the person trained. That's why that
22 person sitting next to that hole can't just sit there and wait
23 for the fire department. He's got to have some type of
24 training for first response. Absolutely.

25 And when these guys get here, they're in charge.

1 But up until the minute they get there, somebody's got to lay
2 down and be responsible for that person in the hole. That's
3 where this training comes from. And if it's only used for 15
4 seconds and it saves somebody's life, it's well worth it
5 gentlemen, I don't care how much money it costs.

6 MR. KENNEDY: No, I agree. If you try and --- has
7 permit required confined space and they had the equipment,
8 external rescuers definitely defers to response.

9 MR. MEADE: Yes.

10 MR. KENNEDY: And the attendant should be trained in
11 how to do that and not to go into the hole and try to save
12 somebody. But if he's hooked up to a harness and a life line,
13 pull him out. Absolutely, I agree with that 100 percent.

14 FACILITATOR McLEHAN: Mr. Prichard, you had
15 something?

16 MR. PRICHARD: Just to go on what Charlie said, the
17 MBA did 1670, if the --- also did --- just in technicians.
18 And there are specifics in there for confined space. And I
19 think that should be looked about. We're looking about the
20 construction standard here. One thing about entrapment, a lot
21 of people say, oh, I'm going to go buy a tripod and that will
22 solve all my confined space problems. The majority of
23 confined spaces, unless you've got a manhole, it's not going
24 to work. You've got to look about some other type of anchor
25 points, stuff with that.

1 And, Greg, I go along with the fire departments.
2 You're going to be in charge, but again, we've got to
3 coordinate with them to see if they're trained. They've got
4 to have the funding for that. They've also got to be trained.
5 We also need to consider response time on that. Because,
6 again, if we've got the person that's not breathing, we call
7 the response team, or whatever, and it takes them six to eight
8 minutes to get there, that person's not breathing, well, in
9 six minutes we've got brain damage. So that's something we
10 need to consider.

11 You know, what's going to be our timely manner? I
12 know, I hate that, the way it's written in 1910.146. Because
13 it's too vague and stuff. Got some specifics, it came out in
14 the preamble, but we looked at the standards, it says for the
15 situation applicable. What's that mean?

16 You know, give us some definitive parts and stuff
17 that we've got on that. But again, we need to all look about
18 working together on this rescue and, ideally, hopefully, that
19 we never have to do to rescue, because everybody's following
20 that procedure to start with. We've got this safety check
21 list, we're doing our monitoring, we should never have to do
22 rescue. That should be, you know, one in a million times that
23 we do this.

24 If we're doing our following procedures, we're doing
25 our monitoring, and we're doing our training, we shouldn't

1 have to worry about this.

2 FACILITATOR MCLEHAN: Okay. Any -- yes, sir?

3 MR. MCLAIN: Ken McLain, Business Safety --- Tunnel
4 Worker Safety Coordinator with Internal Workers. Mr. Kennedy
5 and Mr. Pigsley, Underground Contractors Association, do we
6 consider tunnel work as confined space?

7 MR. PIGSLEY: Absolutely. One, it falls under the
8 1910 --

9 MR. MCLAIN: And is it the -- I was wondering if
10 it's a permit non-required confined space? I know it's under
11 the 800 standard, but is it a permit required confined space?
12 Is that what the tag in, tag out is for? I'm just wondering?

13 MR. KENNEDY: Generally speaking, I don't consider a
14 tunnel a confined space. You're covered by 1926.800, you have
15 your own specific requirements for rescue and communication.
16 You check in and check out, testing electrical and all the
17 other things that are related to tunneling operations. So I
18 generally speaking, unless it's a small boring job or
19 something, you know, a small tunnel that they're boring a pipe
20 under a highway or something, generally speaking, I don't
21 consider a tunnel that you have here in Boston to be a
22 confined space.

23 MR. MCLAIN: Like micro-tunnelling, you think maybe
24 a 42 --

25 MR. KENNEDY: That's still up in the air. We need

1 to decide on that one. We've had our arguments with for and
2 against that.

3 MR. PIGSLEY: I think the majority of the
4 contractors that do the micro-tunneling and so on follow the
5 800 standards even though -- you know, we follow the criteria
6 that's in there. We implement the 1910.146 standards and the
7 800 standards --- and all that. And we use that as the
8 guidelines to what we're doing now. So, like George, I don't
9 think we really consider that as a confined space.

10 I'm from Wisconsin and we don't do that up there.
11 We looked at the 800 standards.

12 MR. MCLAIN: Yes. There's no doubt that it comes
13 out of the underground construction, the 800 standards. But
14 maybe the tension from OSHA or something, and we can get
15 something that does definitely qualify. We treat it as a
16 confined space. One way in, one way out most of the time.

17 MR. PIGSLEY: Yes, but that's all covered by the 800
18 standard what you have to do.

19 MR. MCLAIN: Right. Right. But I guess I'm
20 generally not just --- underground contractor ---, but
21 everybody to consider that confined space within that confined
22 space, if you would. I mean, I think everybody here agreed
23 that technically when you go down into the hole, there's one
24 way in and one way out. And then you're moving yourself
25 around the equipment and stuff down there that it is very

1 confining. Limited access and egress being the one way in and
2 one way out.

3 I've been down 460 feet down a fire --- diameter. I
4 think I consider that a confined space. So, if we can
5 establish that OSHA -- if we can establish it one way or the
6 other if that is a confined space. Once we're in that
7 tunnelled area, to go ahead of the TBM into a TDM, into a
8 covered area, crawling through that opening and so forth, I
9 think we can agree that that is a confined space there.

10 Also, to draw some attention to the first-aide, if
11 there would be. I think I agree with Bob, that the first-aide
12 part of it and the qualifications of the people in that first-
13 aide area. If we're out nine miles out, we see the need for a
14 certain amount of first-aide qualified people. And right now
15 there's nothing that really covers the amount of people that's
16 ---. So being that we're in a safety forum here if we would,
17 I think something should definitely address the amount of
18 qualified first-aide trained people in those areas.

19 MR. PIGSLEY: The 800 standard addresses the rescue
20 squad type training. And it's tunnel rescue too.

21 MR. MCLAIN: Yes, that's five --

22 MR. PIGSLEY: They address the five man teams and
23 exactly how many have to be on site and all that. And I agree
24 with you, they don't discuss the length or how long it takes
25 to get back in some of these tunnels. We might run a mile or

1 two miles, whatever. --- I do agree that needs to be
2 addressed, but I think of all the things that we have out
3 there. The 800 standard is very comprehensive as far as
4 protecting the employees. For a number of people down there,
5 we don't have ---.

6 FACILITATOR McLEHAN: Yes, sir?

7 MR. MEYERS: Bud Meyers. ---. The five on five, if
8 I'm not mistaken, in the 800 standards, that will allow the
9 fire department to be the main rescue. But we know that we're
10 an hour away. If there was an injured person in the heading,
11 than we're an hour away from the fire department getting
12 there, giving response and getting in on a Lokey to that
13 position.

14 My interest is to get more people trained -- and it
15 gets somewhat more mandatory just to leave it up in the air
16 that you're rescue team, per se, rescue team rather than
17 medically trained people, personnel, on the job itself. See
18 what I'm getting at?

19 MR. PIGSLEY: Yes.

20 MR. MEYERS; If you were down there and all of a
21 sudden there was something amputated, and you're starting to
22 shoot blood, are you going to make it out the hour or are you
23 going to wait for the fire department to come in and be the
24 main rescue, and so forth? Are you going to make it? You
25 know.

1 MR. PIGSLEY: Most of this time, this has been
2 mandated by construction job sites that we have on site the
3 number one five man rescue team. And most times, in Illinois
4 and Wisconsin, they demanded that we have the back-up team on
5 site and, basically, the fire department is the people who is
6 going to come out there and provide the EMS service and so on.

7 But I've been in the deep tunnel in Milwaukee and
8 the deep tunnel in Chicago. And in both incidences, it ended
9 up that we had to have people -- I just got done training a
10 crew last week for Michaels, that they had to have those guys
11 on site. The standard doesn't specifically say that, but I
12 think a lot of people have been doing it.

13 FACILITATOR McLEHAN: Okay.

14 MR. : --- for Mr. McLain, I think one of
15 the situations he's talking about, I'm a Captain of the ---,
16 Mass. Fire Department and I was first due to one of his
17 sites --- tunnel. They had a gentleman that had a crushing
18 injury from the Lokey, seven, seven and a half miles up.
19 There was a paramedic that was part of the crew --- the time
20 at that site. I really believe this gentleman would have
21 survived, but because of the speed at which the Lokey could
22 travel from the hazardous situation where, even if the fire
23 service or --- the rescue crew, immediate ALS intervention
24 might have been the difference in that particular situation.

25 When you have a site that's a massive construction

1 site like the Big Dig in Boston, or the Boston Harbor ---,
2 sometimes how far -- you have some situations that are set up
3 on paper that look good as compliance, but the compliance
4 safe, but the practical application is non functional in an
5 emergency situation. And the scope of the that particular
6 project was one of those situations where as far as -- we call
7 it tunnel mask incident. They had to come --- the Boston Fire
8 Department ---, but it was the medical emergency, the
9 threatening medical emergencies where you were at the --
10 basically, to be --- far out they were, how long it took for
11 the Lokey to get back in.

12 Because I happened to be there in that particular --
13 - worth the base of the shot. It was a good 25 minutes from
14 the time we were notified ---, that person with no medical
15 attention was brought in. He was conscious, alert at the time
16 of the accident. By the time he got to the base of the shaft
17 he was in cardiac arrest, --- arrest. So these are the kind
18 of situations I think we're looking at.

19 MR. PIGSLEY: I think those were a good point. I
20 guess in our area, we look at it being mandatory by contract
21 that we have those people on site. And I was surprised, some
22 of the comments I heard were they don't have people training,
23 first-aide and CPR, on site and kind of take it for grant it
24 we're going to do that.

25 MR. GRAFTON: Dave Grafton from OSHA. On site is

1 not enough. At the heading is where you need them.

2 MR. : Absolutely.

3 MR. : Right.

4 MR. GRAFTON: Because an hour and twenty minutes to
5 ride the man trip out, because I wrote it up for three
6 accidents out there. Three fatalities. An hour and twenty
7 minutes out. The man's gone. Nobody's going to survive an
8 hour and twenty minutes when they're crushed. And we lost two
9 other people in that tunnel out there. Why? Because four
10 people were out there only. There was no rescue out there and
11 by the time they brought them in, it was an hour and twenty
12 minutes.

13 MR. KENNEDY: Well, a job like that it wouldn't be
14 practical to depend on the local rescue teams, from the fire
15 department, because you are too far out. I mean, you can't
16 even get close to leading a reasonable response time, so I
17 think in a situation like that the contractor or the owner of
18 the job should specify that they need to have people trained
19 in a rescue.

20 And, of course, in a tunnel job like that, you're
21 talking a long-term job where training some people and having
22 some professionals available to you is more practical and
23 reasonable. What we're referring to in terms of -- when I
24 refer to rescue teams being there to help I'm talking about
25 the smaller jobs, the putting in the manholes and the pipe and

1 the culverts and the, you know, the average everyday job as
2 opposed to the massive tunnel job or plant job where you've
3 got special hazards.

4 And, in this case, a really long response time if
5 you depend on the rescue services. So I think we need to look
6 at the situation in each case and the contractor should be
7 aware of that. In case of first-aide, they should have had
8 some first-aiders in that crew. I mean, that's your own
9 regulations that they have to have a response time of four to
10 five minutes, with basic ---.

11 I mean, that's basic. And, again, you know, are
12 they going to --

13 MR. GRAFTON: That's basic -- what they have makes
14 it --

15 MR. KENNEDY: --- response time.

16 MR. GRAFTON: -- fellows out there, right, Kevin?
17 With basic trained first-aide. A fire department responded
18 very well. They were four minutes, they were on the site in
19 four and a half minutes. But from site to heading. And now
20 we've got men in confined space in front of the TVMs through
21 an 18 inch hatch, I would --- myself, with between the face
22 and the cover head, or 28 foot cover head, and the contractor
23 out there did put in a double confined space he used to call
24 it. Once the man went through that hatch, it was lock out,
25 tag out was incorporated into the confined space because you

1 were in no man's land down there.

2 And that's something we have to address is the
3 training aspect of our own personnel in these areas where they
4 are the first -- like Paul said, the first person there, while
5 we're waiting for the fire department to come to take over,
6 our people have to have the training and accept responsibility
7 to do it. And when I say accept responsibility, that's the
8 sub-contractor, the general contractor, and the owner of the
9 property, accept that responsibility to do this on the job.

10 We don't want the fire department to come. We want
11 an engineer --- in a standard so we don't have to call them.
12 But if we do need them, we want it right. Thank you.

13 FACILITATOR McLEHAN: Okay. Yes, sir?

14 MR. : I wonder whether the construction
15 standards ought to be more firmly delineated to where these
16 larger projects and any of the low cash basis that the rest of
17 us are doing. If you look at the general industry standards,
18 there's a whole section of special industries. Why shouldn't
19 there also be a separate section of the construction standards
20 for these larger projects -- the tunnel that you guys are
21 doing?

22 The hazards are way different than hazards that we
23 face. They're way different.

24 MR. KENNEDY: Well, that's the 800 standard most of
25 that. It works out fine. The 800 is a great standard. I

1 think it's a good standard.

2 MR. : Well, all I'm getting at is that I
3 don't want to have the little guys being saddled with the same
4 types of regulations that would be required for a bigger
5 project.

6 MR. KENNEDY: It's the same hazard. How do you
7 change it?

8 MR. : Well, I'm not sure that it is the
9 same hazard. I'm not sure that a generic defined space hazard
10 is -- you know, there are problems enough just trying to --
11 again, I get back to this elevator pit business. In the
12 general industry standard for confined spaces, it's a big time
13 ---. Is that a permit required space? There's no atmospheric
14 hazards. The hazard is maybe that elevator might fall.

15 All I'm saying is that the hazards are different in
16 smaller scales.

17 FACILITATOR McLEHAN: Okay. All right, thank you
18 gentlemen. And if you would be kind enough to take a seat in
19 the audience, we'll get the other speakers up.

20 And how about we take a 10 minute break. Okay, it's
21 9:30, let's -- well, it's about 9:32, let's be back here at
22 quarter of ten. So you get a little more than 10 minutes.

23 (Whereupon, a short recess was taken.)

24 FACILITATOR McLEHAN: Okay, I'd like to introduce
25 our next group of speakers. We have Charlie Flanagan from the

1 Massachusetts Fire Fighting Academy; David -- is that
2 Lamensdore?

3 MR. LAMENSDORE: Lamensdore.

4 FACILITATOR MCLEHAN: Lamensdore from Safe
5 Environment Engineering; Colin Riley from Unique Concepts; and
6 Gary Hamilton from Unique Concepts.

7 Okay, Mr. Flanagan?

8 **PRESENTATION**

9 **by Charles Flanagan**

10 MR. FLANAGAN: Good morning. I've already spoken on
11 the other people's dime, but I just wanted to get a point
12 across.

13 My name is Charles Flanagan. I usually go by Chuck.
14 I'm a Captain with the Winter --- Fire Department. I'm
15 Technical Rescue Coordinator for the Massachusetts Fire
16 Fighting Academy, but I'm actually here representing myself.
17 I also have a private consulting firm that does technical
18 rescue training, a great deal of it with confined space. I
19 also provide standby rescue for industries. And a lot of it
20 is the construction industry in certain areas.

21 My main interest for coming today was relative --
22 the topic that we've been referring to the last few minutes,
23 and that's the rescue service as part of it. And the biggest
24 problem that I see out there right now is just the fact that
25 the assumption, and I think several of the speakers in the

1 first group made reference to it, is that private industry in
2 the general industry -- to some extent, the construction
3 industry has an assumption of what the capabilities are from
4 one fire department to the next.

5 And where that became a real eye opener for myself
6 is my community is adjacent to Deer Island, which for those of
7 you who are not from around here, with the Boston Harbor Clean
8 Up Project, which is pretty much winding down. But it was
9 about a 12 year project where it was practically mandated for
10 the clean up of Boston Harbor. And it was a massive
11 construction project. It was a highlight of --- Tunnel, which
12 --- planning. With references, you know, being in the ---,
13 get a wonderful job in constructing. Like with a lot of
14 serious set backs that ---, but it really had a scope that was
15 unbelievable.

16 And one of the things I did find out is that that
17 project brought construction workers in from all over the
18 United States. And because of that, they all had different
19 perceptions of the capability of the fire services. Certain
20 parts of the country where it's strictly volunteer, they're
21 expectations were one way.

22 If you were somebody that grew up in L.A. County or
23 L.A. City, where they are tremendously highly trained because
24 of a lot of reasons. It's an OSHA state, unlike
25 Massachusetts. It's relative to the fire service, which is

1 not an OSHA state. Their expectations were different.

2 It even came down to the basic concept of when that
3 project started, we did not have 911 in Massachusetts and
4 people were calling 911 when there was an emergency down here
5 and we literally had a black out the place with bumper
6 stickers to how to notify the emergency response teams.

7 And when you think about a project that was a multi-
8 billion dollar project, that a simple notification thing
9 wasn't in place and, actually, when the job started --- just
10 show you that we think in a positive mode, that these
11 situations aren't going to happen. So we tend to be
12 reactionary versus pro active.

13 And I think a lot was learned on the Deer Island
14 Project which made, for instance, the Boston Fire Department
15 much, much better prepared to handle the Big Dig Project,
16 because it learned a lot, based on the Deer Island Project.

17 Some of the problems I see, and I just wrote down a
18 lot of bullets because I didn't have anything formally
19 prepared, but relative to some of the things that are on the
20 board here. The atmospheric testing, continuous or
21 intermittent. My experience has shown when I've dealt with
22 people both in the private sector and in the fire service, it
23 responds to some of the new finagled atmospheric testing
24 devices which we have, which are very good instruments.

25 They know how to use the instrument based on the

1 training they received from the manufacturer. And it's
2 designed for all adults and ---. So you really have very well
3 trained -- and I don't interpret the information using the
4 positive mode. In other words, we have a specific --- whether
5 it be hydrogen sulfide, CO, we have an exposure level, times a
6 time line, what does that make it? Is this a rescue versus a
7 recovery?

8 Are we putting people in harms way when we have
9 situations and they should never have taken place in the first
10 place because they're reacting to the red light of the alarm
11 going off on their meter, but they didn't use that information
12 to determine really what could actually happen right now. How
13 involved do we need to get?

14 I have dealt with situations where they have an on
15 site response team, an in-house response team and not.
16 Reference was made today, earlier, that the fire department
17 would be there, which is the case. A lot of times what
18 happens is that they over estimate their capabilities and they
19 let a lot of valuable time go by before the initial
20 notification goes. And time is lost.

21 Most confined space emergencies, especially the
22 atmospheric ones, there's a very small window of opportunity
23 to make that rescue. That is determined by the ability of the
24 people who test the atmosphere properly, the inside
25 information, and then the equipment level of the people

1 responding. I agree with the gentleman from the Boilermakers,
2 that if you can make that non-entry rescue prior, absolutely,
3 do it. But one of the things that we have to also be aware of
4 is that you are trained, and a situation presents itself.

5 And because of your training, you know that you
6 can't do anything until someone comes in and has supplies,
7 their respirators, that kind of thing. That is a pro-active
8 decision. That's not doing nothing. And what you did is you
9 made a decision that did not escalate the --- into the would
10 be rescue, and becoming the victim.

11 We have to really take the training to a broader
12 base. I was talking to one of the gentleman during the break.
13 And you deal with companies that have had confined space
14 training within their corporate parameters, the specific
15 locations, real site specific for instance.

16 The gentleman from Connecticut was talking about the
17 simple spaces. He may have trained some people, simple work -
18 --, because they're --- a hoist or a tripod or whatever. But
19 they may be listed in the corporate directory as confined
20 space trained. You then send that person to be the attendant
21 or the standby person to another location that's totally out
22 of the scope of what his training was because the parameters
23 are not spelled out for that job. We don't have a hazard risk
24 assessment for that job by a qualified person.

25 A lot of times it's not just based on --

1 historically, we've never had that problem. The fire service
2 can make a living on things that never happened before. And
3 this is the kind of stuff that has to happen. Competent
4 people. There's got to be a criteria for that competent
5 person.

6 I found with some of the big jobs that we have
7 consulting companies that ---. I've got industrial hygienists
8 and things like that. They have much more stringent
9 guidelines --- because the person that wrote the permits or
10 supplied the information really understood the scope of the
11 hazard. Whereas, you have the worker who might have been a
12 very competent employee, whether it be an electrician or
13 boilermaker who goes up the food chain to the point where he's
14 now a supervisor.

15 Because he's at the point now where they don't want
16 to physically do as much work, but they want to use some of
17 his experience. They may not actually have all of the
18 qualifications that we make in that hazard, a misconception.
19 A lot of it just comes purely from experience.

20 I'd like to see more interaction between the
21 construction industry and the fire service. Not so much in
22 just the big jobs -- because of the Metro Boston area, that's
23 been pretty positive over the last 10 or 15 years. The fire
24 service and big projects are working pretty well hand-in-hand.
25 There's been a lot of vindication money. And I'll be honest

1 with you, a lot of the smaller entities benefitted from it
2 because a lot of --- equipment, opportunities, we've had to be
3 trained and train outs were a result of funding in this area.
4 And it trickles right down to the community level.

5 What we need to have -- to use the fire service more
6 than we do. And not assume that they have the capabilities
7 and the training ---. Give them a call. Find out what
8 they're capable of doing. A lot of times they do have the
9 training but don't have the equipment, things like that. So,
10 a phone call wouldn't hurt.

11 I routinely work with cities and towns that have a
12 lot of target ---. But the point that the gentleman from OSHA
13 made, it's an excellent point, getting to know -- the hazards
14 don't know, they cannot equipment train. For a small fire
15 department, if we have a big fire -- our big fire department
16 when we have a big fire. But fires, you only have 10 fire
17 fighters where you've lost maybe 20 ---. The hazard and the
18 risks are still there. So we have to make sure we're not
19 losing things through translation if it's a small job versus a
20 bigger job.

21 But what I would just like to see is that -- because
22 I know in other parts of the country where they tend to be
23 more loyal and more real estate involved as far as the locals.
24 The fire service be continually put into the plans. And if
25 there's a good dialogue between the fire service and industry,

1 it will help the fire service when it's time to expand with
2 its adoption of these new --- standards that we were talking
3 about.

4 If a fire department became what we call all risk
5 trained in that area, it would be able to handle just about
6 any situation that it has the likelihood of a positive
7 outcome. There's always going to be an incident that it
8 didn't. It's catastrophic and the other is going to be no
9 positive outcome. But for the most part, if you go in with
10 the tools -- and I always tell people the best tools is what's
11 between your ears -- that's going to also prevent fatalities.

12 People sit and plan the problems out at the jobs,
13 but I just would hope that you would plan us into the job.
14 That's basically what I was here to lobby for today.

15 FACILITATOR McLEHAN: Thank you, Mr. Flanagan. Any
16 questions for Mr. Flanagan? Yes, sir?

17 MR. : The first -- go ahead.

18 MR. : Just one quick question, Charlie.

19 You mentioned that you have a rescue team for service, a paid
20 off site --

21 MR. FLANAGAN: Right.

22 MR. : -- rescue team. How relatively
23 available are they throughout the country? I mean, do you
24 find that --

25 MR. FLANAGAN: I think they're there, but it's not

1 something you look in the Yellow Pages and see confined space
2 standby rescue teams. I'll be honest with you, when I get a
3 job, it's usually because of a major consulting company that
4 works with my job, is aware of the fact that we're out there.

5 You know, I'm primarily doing training, but I have a
6 really good academy of qualified people and I have a trailer
7 full of equipment so that I can be on site. And we have a
8 diverse group of people, like myself. I'm a hazmat technician
9 in the State of Massachusetts. I'm the regional sponsor. So
10 we can handle the atmospheric policy of -- people with
11 extensive --- capabilities and things like that.

12 So, it's a situation where it runs in spurts. I'll
13 have four or five jobs real close together because a lot of
14 people that were communicating, but it's not actually what I
15 want. If you want a regular basis -- I'd much rather see if I
16 go into a given town and a company, well, maybe --- would like
17 to hire my people everyday to standby on a job.

18 I'd much rather see them train that fire department,
19 you know, spend less money and maybe for 10 or 12 days and put
20 in a comprehensive training program and then -- because that
21 becomes a staffing ---. And the point being made --- in a
22 rescue is, at the industry level, is overwhelming.

23 And the first time you run a training program it
24 costs you a lot of money. And then you find out two days
25 later, no --- I have to do it all over again. So even if you

1 decided two years to run a program, if you were training the
2 same group, that being the municipal fire fighters, their
3 skill level raises so the risk level lowers. And that's kind
4 of the direction I'd like to see it go.

5 Where it's possible, it certainly not possible in
6 parts of the country where it's not appropriate because some
7 of these projects in the industry are just not close to a fire
8 department, you know, time wise.

9 But you could also look at --- even if you did train
10 them, it may be an availability. We hire a police officer in
11 a private detail and ---. If you have a fire department, it's
12 like all hazard trained, it could be an opportunity to do that
13 also. So, I just think it's a, you know, ---
14 organizational --- they can put numbers together quickly.
15 They have the first-aid training, they have, you know, even
16 advanced medical training, patient --- whatever, that they can
17 handle that job.

18 And the other thing that we're overlooking on the
19 construction site is what --- confined space accident that the
20 --- was something else. So it's not just in confined space.
21 You know, a lot of issues that happened on these major
22 construction sites, when you get there, it goes well beyond
23 confined spaces.

24 To lock into just emergency response plan that's
25 geared strictly to the confined space as the scope of the

1 incident gets out of hand, I would think that ---. By having
2 a group like a fire department go out there serving ---
3 certainly a better condition --- condition.

4 MR. : So teams like yours are available
5 everywhere or?

6 MR. FLANAGAN: Yes. We're mostly the big cities.
7 You're looking -- in a major city do a training consultant.
8 Usually a training consultant that does it -- that's well
9 versed in what -- they usually do it. It's a --- part from
10 what they're doing.

11 And sometimes you may have a job that may be worth
12 your while to put one together because they have the people
13 that are fully trained, fully equipped. But that's generally
14 -- the people that do it are generally trainers primarily and
15 it's a spin off of what they're doing.

16 In fact, a lot of times because they are training
17 people, they have a good handle on capabilities. And they
18 actually take their students and make them part of the list
19 and group all the time. Because it gives them a, you know, a
20 big group of people to draw from.

21 FACILITATOR McLEHAN: And I remind you to use the
22 microphones when you're speaking on the floor please. Yes,
23 sir?

24 MR. LAFORD: My name is --- LaFord. I'm a
25 Lieutenant of the Boston Fire Department. I've been on 30

1 years. I did most of the technical rescue training in the
2 Boston Fire Department. The Big Dig came in 1992. And I did
3 physically all the training for the NWA Project Tower. With,
4 of course, a bunch of other guys. But I was part of it.

5 I was ready to --- to speak and one thing I just
6 wanted to say to add on to what Charlie was saying is,
7 speaking from the fire department's point of view, and then I
8 do have to leave and I just wanted to get my two cents in as
9 that.

10 FACILITATOR McLEHAN: Okay.

11 MR. LAFORD: All of these spaces that I've
12 encountered at the fire service tunnelling, we've done, you
13 know, 1926.800. All the confined spaces, pipe jacking
14 operations. In the City of Boston, we had pipe jacking going
15 on for five years. Pipe jacking is in construction, yet, what
16 part of the standard -- I think what we're saying in the fire
17 service is, you --- doesn't matter. To us, it's a rescue.
18 It's a confined space rescue, a tunnel rescue. You can put a
19 name on it, it's a rescue. We know how to do it. We have
20 companies train that know how to do it.

21 I think a couple issues we deal with on the
22 definition of confined spaces in construction is one of them.
23 No one's brought up trenching. Trenching comes under the
24 1926.651 or 650, I'm not so sure. We're trained in the City
25 of Boston for trench rescue. We know how to do it.

1 No one has mentioned that all these confined space,
2 all the construction standards ---. We're going to these
3 incidents and we're making rescues. All right. We know how
4 to do it. I think the point we're trying to say here is that
5 the fire service is best person to do this. We are the best
6 people to do it, that's what we do. Our mindset is rescue.
7 It's emergency. We know what we're doing.

8 The first thing I told everybody here is, the first
9 thing the fire service has to do is come up and shake hands
10 with the contractor and work together. Although we do know
11 emergency, I don't know how to tunnel. I don't know where
12 ventilation is. I don't know how to write a ---. And I need
13 to work with these people and we need to work with the
14 construction people here.

15 The Big Dig project -- if I go to a site and I find
16 the person in an area -- let's identify this confined space to
17 mean he's unconscious and there's no one around there, I'm
18 going to have to treat that as a confined space. I would have
19 to treat that confined space ---. What we're saying is that
20 the contractor and the fire service have to get together and
21 work together all the time while they're doing this on these
22 big projects. The Big Dig took all the subcontractors, and I
23 can't tell you how many there are, 3,000? But --- 3,000
24 contractors and put them all into one rescue ---. That's a
25 massive project.

1 I think, personally, OSHA should mandate these
2 companies to identify their rescue teams in writing. It says
3 in the appendix that they should notify the rescue service and
4 have contact with them, but it doesn't say -- I can't tell you
5 how many places I've gone to that write on the permit, 911 and
6 the fire department has five guys working. They're out in a
7 smaller town. No one can provide that service.

8 And what's, basically, going to happen is the fire
9 department's going to show up and you --- the statistic there
10 as a would be rescue, because they're not trained properly.
11 And maybe they don't even have a --- level training that is a
12 confined space.

13 So maybe OSHA can, first of all, we identify I think
14 construction -- absolutely, we should have confined space
15 standards and they should be --- about rescue services. And
16 maybe OSHA can go one step further and say to these people
17 that you have to identify in writing who your rescue service
18 is. And we get that out of the way.

19 There are 780 high rises in the City of Boston. Two
20 have contacted the fire department for rescue services. How
21 many hotels are in the City of Boston that have normal
22 maintenance in confined spaces? How many high rises? Nobody
23 contacts us. They expect it. And they right down 911.

24 And that's what I see in the standard and what
25 Charlie was talking about, that's where it doesn't -- we need

1 to work with the contractors, but these people need to call
2 us. They don't call. And, in turn, OSHA will go ahead and
3 cite them, but yet it's too late then.

4 I told Dave one instance where we went over to a --
5 I won't name the company, but they were making an entry and we
6 were doing a training drill and Charlie was there. And we
7 went over and on the permit and it had the telephone number
8 for emergency rescue. And it was the outside pay phone booth
9 for Engine 5 over in east Boston. And that's what they write
10 down. And it gets the job done. And they get through the
11 job, they walk away, and ---.

12 MR. FLANAGAN: This is a multi-national company, so
13 this isn't putting a little model --- operation.

14 MR. LAFORD: Oh, this is a major player. This is
15 what they do. And even if OSHA said to them, you need -- like
16 I said, like Charlie, I travel around the greater Boston area,
17 do a lot of training --- fire departments and do a lot of
18 training for industry. I also, like Charlie, --- contract
19 rescue standby services. For the small companies in the
20 community that don't know where to go. There needs to be a
21 need for everything like that.

22 And there are people out there that do it. The fire
23 departments are the best equipped and I really only see the
24 fire departments doing it. I know small communities sometimes
25 don't have the manpower, but big towns and big cities, maybe a

1 group of fire department getting together. I don't know how
2 you can do it in the industry part of it, that consortium
3 groups of people to pick.

4 The cost of the fire department and I can just say
5 to the Big Dig, it was millions of dollars for us. Millions.
6 Any NWA project is millions of dollars. But that doesn't mean
7 that it can't be done. It can be done. And it should be done
8 by the fire service.

9 FACILITATOR McLEHAN: Okay, thank you.

10 All right, any other questions for Mr. Flanagan or
11 comments?

12 (No response)

13 All right, Mr. Lamensdore.

14 **PRESENTATION**

15 **by David Lamensdore**

16 MR. LAMENSDORE: Good morning. I'm David
17 Lamensdore, I'm --- from Safe Environment Engineering. We
18 manufacture systems approach for workers going into confined
19 and hazardous locations. And our goal when we really started
20 out was to really create a system. We found too many
21 instances where people were treating the OSHA regulations and
22 looking at it and essentially creating it into different
23 elements and there was no consistency. So we manufactured a
24 communication system that incorporates both radios and ways of
25 doing continuous environmental monitoring. And creates a way

1 to integrate that all in tracking individuals and creating
2 permits and the like.

3 And my goal here today was to make some specific
4 comments on --- coming out and talk about it. Specific areas
5 where I'd like to point out that --- exists out there and how
6 it might get integrated.

7 First off, in conjunction with my favorite standards
8 and talking about definitions, one of the things that we
9 really find out that there is somewhat of a lack of
10 consistency. And that incorporating definitions such as
11 1910.146 would be a great asset. We can conceive standards
12 not only from 146, but also things are happening within the
13 military and such like that where that contractor or civilian
14 folks that are following a different set of standards.
15 The --- ways for your major point here, at least be a
16 reference.

17 The second issue talks about engulfment and early
18 warning systems. Frankly, there isn't -- the definition just
19 for confined space standard and such like that addresses the
20 fact that there must be some sort of a need for an early
21 warning system. And they're out there. We have a system that
22 works. There are alarming systems. Even something as simple
23 as what a lot of amateurs call the probing tank monitor, or
24 probing tank watch person that is outside the space that's
25 constantly looking and addressing things from the outside of

1 the space could really be used.

2 it's really important in these kind of situations to
3 be pro-active versus reactive. And one of the things that an
4 early warning system does is allows the person, the entrant,
5 that person inside the space, to receive that information much
6 more quickly.

7 We are certainly at a stage and everybody here has
8 probably either brought a cell phone or has a pager or --- on
9 it. Where we've grown dependent, at least, with communication
10 standpoint, on wireless technologies and such like that. They
11 do work. We are at a phase and stage of manufacturer and
12 reliability where these systems can be put in place. And
13 that's one of the things that we've been trying to work in and
14 point industry towards.

15 There are other systems that are also available, not
16 only are life systems, but physical gas systems are now
17 becoming wireless as well. Where they can be easily put into
18 place, especially in a construction environment. It is set up,
19 at least, we have some sort of an early warning system that's
20 available. Again, I think a gentleman up here also talked
21 about just two-way radios. Having that type of communication
22 and just having some way of talking to people and getting
23 information across is also available.

24 And also, they can even take that one step farther
25 and look at video surveillance. That also is another early

1 warning system where you can see and monitor what's going on
2 in the space.

3 The question also was brought up about how often and
4 under what conditions. It's really important that these be
5 done, as far as conditions go, on a continuous basis. If
6 you're going to put something into place as far as an early
7 warning system, it needs to be a continuous system.

8 That also does tie into the periodic versus
9 continuous question. But in order for any kind of an early
10 warning system to be effective, it needs to be fail safe and
11 it also needs to be as consistently as part ---. And,
12 obviously, training has to be a big factor in that.

13 As far as continuous versus periodic is concerned,
14 one of the things that a lot of the new systems will allow you
15 to do is to have that opportunity. It's more accurate, given
16 the fact that you're looking at something over a longer period
17 of time. One of the things that it will bring into play
18 what -- which periodic really doesn't, is the whole issue of
19 stealth and ---.

20 The fact is, the question is to really be compliant
21 under the confined space regs., it is questionable if we're
22 not doing some sort of continuous monitoring. The fact is,
23 the technology --- is out there to allow that to happen.

24 And, obviously, it can be much quicker response as
25 well too. A lot of companies when they're doing periodic

1 monitoring on occasion, you are never going to get that
2 instantaneous change as to what might have happened in a space
3 if somebody knocks over a can of sealant or something like
4 that. That's something that's going to happen right then and
5 there. And there needs to have some sort of immediate
6 response.

7 The simple fact of the matter is if a space is
8 defined as permit required, than obviously there's enough of a
9 hazard to justify the fact that there should be some kind of
10 continuous monitoring going on.

11 Going further into that, are there cost or labor
12 savings that can be put in with any kind of a monitoring
13 system. The fact is, yes, there can be considerable cost
14 savings that they look at. A lot of companies use a person
15 that they coin as a sniffer. This is a person that's going
16 around and periodically doing those tests that's not under the
17 continuous ---. That if the actual entrance in the space, or
18 there was some sort of a monitoring system in place, there
19 needs to have to have periodic of those individuals doing the
20 sniffing, and --- the sniffle fact is that's can be a
21 reasonable cost savings.

22 Companies that do shut downs or turn arounds or
23 there is often times the need to do testing between shifts to
24 break down a facility. But when they're bringing your
25 monitoring system or --- and we test the space. Well,

1 down.

2 The point is that either one can work, but neither
3 one will work for all situations. If you're going to have
4 engineered systems --- anchor points, you have to give some
5 consideration to how that anchor point is going to relate to
6 the situation of the confined space entry, particularly where
7 it's permit required and hazardous present.

8 With regards to requirements of monitoring and
9 combining the roles of entry supervisor and attendant,
10 monitoring one attendant with multiple entries is certainly
11 possible. I would tend to define it personally along the area
12 of what kind of entry you're going in to. What are you using
13 to put a person into that confined space and what are you
14 planning to use to get him out if there's a problem?

15 If what you've got is a series of ladders, and
16 they're all close together and your attendant is able to
17 monitor the hazards adequately, it should be possible to get
18 away with a minimal number of attendants. But if you're using
19 a position device such as a wench, or a three-way retractable,
20 or anything like that, you're going into a fairly complicated
21 space. It would seem to me that in an emergency situation,
22 one attendant per entrance and one system per entrance should
23 be the minimum, if possible.

24 Because, if you don't do that, sooner or later your
25 attendant is simply going to get into the situation of having

1 to make a decision, who lives and who dies. Who comes up
2 first. Even where you're using the systems, what happens if
3 you have a power drive system, which are allowable and they're
4 properly mandated. You have one attendant and then a couple
5 of people in emergency come up with self extraction and get
6 hung up? Somewhere along the line, that attendant is going to
7 have to quickly disengage the power drives and do manual crank
8 retrieval. He's not going to be able to do it for more than
9 one person. Someone's going to get left hanging.

10 In our view, the issue of combining roles of entry
11 supervisor and attendant is simply competency. It's an issue
12 of who knows what is in that location. And there are two
13 specific kinds of competency. A general competency where
14 that's kind of confined space in general in the industry. And
15 the second one is a competency for that specific confined
16 space. The quirks, the little unique things, the twists of
17 that confined space that are different from the industry
18 standard.

19 And those are my comments.

20 FACILITATOR McLEHAN: Thank you, Mr. Riley. Any
21 questions or comments for Mr. Riley? Yes, sir?

22 MR. : One thing I would like you to
23 clarify for me is, what it is, you say one attendant per
24 entrant? Not one attendant per entry space? I mean, are you
25 proposing that we have six attendants if we have six people in

1 a space?

2 MR. RILEY: I am proposing that you should have
3 sufficient attendants there to get the people out in an
4 emergency situation. It would almost come down to one
5 attendant to means of retrieving people. There are going to
6 be confined spaces where it's simply physically impossible to
7 get more than one system in place. And yet you are going to
8 have two or three people down there.

9 In that situation, in terms of operating the
10 engineered system, one attendant is all you're going to have.
11 But where possible, where possible, the rule that I would aim
12 for is one retrieval system per entrant, and one attendant per
13 entrant to operate that in an emergency situation. To me, in
14 terms of preservation of human life, that would only make
15 sense.

16 FACILITATOR McLEHAN: Okay, any other questions?

17 (No response)

18 All right, our next speaker is Gary Hamilton.

19 **PRESENTATION**

20 **by Gary Hamilton**

21 MR. HAMILTON: Good morning everybody. I'm here
22 representing the Volunteer ---. I'm from the ---.

23 MR. : We can't hear you.

24 FACILITATOR McLEHAN: Mr. Hamilton, can you --.

25 MR. HAMILTON: As a ---, my comments will be fairly

1 geared towards our particular products and types of products.
2 And things that we have come across in the industry.

3 Basically, what I would like to talk about right now
4 is an issue that we have come across related to our products
5 that we feel are not adequately addressed in existing confined
6 space regulations.

7 And, basically, the four points I want to touch on.
8 The first one is that we need some definition of some
9 minimum --- performance criteria, more mechanical
10 engineered --- devices and structures. We need some kind of
11 guideline on what kind of retrievals we need to be looking at
12 for mechanical products. It would be nice if there was some
13 kind of a requirement put in place requiring that qualified,
14 competent people be involved in designing, testing and
15 manufacturing these systems.

16 And the fourth issue is the relationship between
17 entry retrieval equipment and vault protection equipment.
18 Very often we've seen that where there's an entry, there is
19 also a hole protection requirement to that and we haven't seen
20 anywhere where there are standards that relate performance
21 requirements for entry retrieval products and structures to
22 those that are laid out in other OSHA publications for ---
23 protection.

24 The first issue that I wanted to talk about is
25 strike --- performance criteria for entry retrieval and the

1 position devices. We would like to see established a working
2 load limit requirement for devices and structures being used
3 for confined space entry retrieval, rescue and what
4 positioning within confined spaces.

5 The number that we have been working with and what
6 we would like to recommend be set as an industry standard is a
7 450 pound minimum working load. We've arrived at this number
8 and feel that it is acceptable because number one, it should
9 cover loads that you're going to see a five tier structure
10 that tier equipment in the raising and lowering of any worker
11 and his related personal equipment tools.

12 We haven't been able to really come up with a
13 situation where there is going to be a load -- we've ---
14 around one person that's going to be in excess of 450 pounds.

15 Number two, it's adequate to provide for the entry
16 and retrieval of the two people in the event that somebody has
17 to go in after a downed entrant. Provides for enough of a
18 safety factor in there to have two people on the line at once
19 in a rescue situation.

20 And number three, it provides some --- what we see
21 is going to be the inevitable misuse of the equipment, such as
22 --- material handling. We have seen pretty scary situations
23 with equipment coming back to us where it has been obviously
24 overloaded past our rated safe working loads. In excess of at
25 least four times and has subsequently suffered some degree of

1 damage to it, which has rendered it incapable of performing
2 it's intended function.

3 Related to that is establishing minimum design
4 factors on that particular rated working load. Everything
5 that we manufacture right now has a design factor built into
6 it that is a minimum of four to one, what we go as high as
7 eleven to one on some of our systems. But four to one is the
8 absolute minimum number that we feel comfortable with
9 engineering our products to.

10 The reason for that is number one, that provides
11 that provides what we feel to be an adequate and acceptable
12 margin of safety, compensating for potential --- loadings, if
13 somebody happens to fall while they're using our equipment or
14 something like if they get dropped or whatever.

15 Intentional or unintentional overloading. And any
16 foreseeable degradation of equipment through user damage or
17 neglect while it's being used. We've seen an awful lot of
18 products come back with cables and broke some life lines that
19 have been partially severed. You have damaged straps in the
20 cables, you have --- components that have very obviously been
21 overloaded. And we feel that the minimum of four to one is
22 required to compensate for equipment damage and as such it is
23 still going to be in service.

24 Another reason for the four to one design factor is
25 that when we apply the four to one to our graded 450 pound

1 working load limit, you come up with a static anchor point
2 requirement of 1,800 pounds. Eighteen hundred pounds ties
3 very nicely into OSHA's current requirements for a minimum
4 tool and design factor of a fault protection system, an
5 engineered fault protection system, when you're using readily
6 available retractable devices and --- are in places that are
7 on the market right now. That's --- level, that later on ---
8 with minimum fault protection applications of our products.

9 On the issue of retrieval speeds, we would like to
10 see some way of resolving the problem that how long do you
11 have to get somebody out of the space between the time that
12 you realizing there is a problem and the time that that person
13 is extracted from the space.

14 We would like to see established some kind of a
15 number, and obviously we're not medical people. We are not
16 involved in that end of things, and we're not really qualified
17 to be making a statement on how long it should take to get
18 somebody out.

19 But we would like to see some kind of a regulatory
20 requirement on how long a system such as ours should take to
21 extract a person so that we can, number one, design our
22 products to meet that, and number two, select the proper of
23 our products to be used for a given application.

24 And that's, obviously, going to depend on how far
25 the victim is going to have to be transported, how far they

1 have to move through, and the various specific natures of
2 the --- itself.

3 The third issue is that of engineering requirements
4 for products such as ours. We would like to see it required
5 that equipment be design tested and manufactured by competent
6 people, possessing training, experience, and required
7 certifications to make sure that this equipment that we're
8 making, that hang people's lives on, is going to be what it
9 needs to be for your given situation.

10 As part of that, we would like to see manufacturers
11 required to publish product performance and specification
12 sheets, the product that they can provide, independent third-
13 party verification of any testing activities that are done in
14 any situations such as ours where products are tested and
15 developed in-house. We would like to see a requirement for
16 independent certification of special manufacturing product,
17 processes involved in building these types of products.

18 An example of that would be certification on welding
19 procedures and such that are carried out as part of building
20 these devices. And we would like to see it required that
21 companies manufacturing products upon which people's lives are
22 going to depend, implement and maintain the certification in
23 some sort of a recognized quality insurance program. So that
24 you know that what you're being promised is what you're going
25 to get. You have to be able to count on the products that are

1 being provided to you.

2 As part of that also, we think that it's important
3 that any piece of equipment such as ours should carry
4 identification of the rated strengths of any anchor points in
5 any lifting positions and tie off positions and whatever that
6 are being used for the support of human beings at any point
7 during an entry retrieval or rescue operation.

8 The fourth and last issue is the tie in of fault
9 protection into confined space safety products. Something
10 that we have come across almost from the very beginning of our
11 involvement in this business has been, I'm using this hoist
12 here to raise and lower somebody, is it strong enough, is it
13 good enough, is there a spot on it where I can tie off or
14 anchor off or attach some sort of a fault protection device
15 where I can incorporate a fault protection system to get to
16 this entry retrieval with a positional device?

17 We would like to see some clarification made on when
18 fault protection is actually required when you're using
19 equipment such as this. And when a single life line for entry
20 retrieval rescue and fault protection would be adequate if
21 that is ever an acceptable situation.

22 And as I touched upon earlier with the strength
23 requirements for the system, we would like to see that such
24 systems are required to have a minimum anchor point strength
25 at any point where you're going to be tieing off fault

1 protection devices, of a minimum of 1,800 pounds proof load
2 tests to meet OSHA's minimum requirements in the two to one
3 design factor on an engineered system for fault protection.

4 To summarize a little bit here, I'll be as
5 quickly -- I see on the time here, is that what we would like
6 to see and what we recommend be incorporated into this
7 standard, and similar standards, is a minimum strength and
8 performance criteria for mechanical positioning devices and
9 entry retrieval devices. We would like some kind of an idea
10 on retrieval speeds and retrieval times for products, such as
11 the ones that we manufacture.

12 We would like to see a regulatory requirement for a
13 competent design and documentation of the design testing and
14 manufacturing process involved in such products. And we would
15 like to see some clarification and some refining of the
16 relationship between entry retrieval devices and fault
17 protection products.

18 FACILITATOR McLEHAN: Okay. Thank you Mr. Hamilton.
19 Are there any questions or comments for any members of this
20 group of speakers?

21 (No response)

22 Okay, thank you gentlemen. If you want to have a
23 seat in the audience and we will begin to wrap this up.

24

25

QUESTIONS AND COMMENTS

1 by Brenda McLehan, Facilitator

2 MS. McLEHAN: Are there any questions or comments
3 that anyone in the group would like to share with OSHA? Yes,
4 sir?

5 MR. PIGSLEY: My name is Hap Pigsley, Wisconsin
6 Underground Contractor's Association. One of the things that
7 I read in the draft proposal is that they're talking about an
8 alternate procedure for confined space entry. And I believe
9 that to be a potential problem for the people in the
10 construction industry. It's either a permit required confined
11 space or it's a non-permit required confined space.

12 When we start giving people options out there, I
13 think we're running into a mess. The permit identifies, or
14 helps us to identify a hazard. It tells how to beat that
15 hazard. Gives the equipment needed to abate that hazard and
16 so on. And I think that once we go -- and, basically, it is
17 my understanding the alternate procedure, that's what it's
18 doing. It's allowing us to ventilate the system and beat the
19 atmospheric hazard and so on.

20 I think that's exactly what we're doing for confined
21 space permit system. We look at it, we identify a hazard,
22 atmospheric or a physical hazard, and we abate that hazard
23 with a still and confined space permit required area, even
24 though we're ventilating it. If you had a power --- down and
25 the ventilation goes out, or whatever happens, you're right

1 back to the hazardous situations.

2 So I think that in the draft proposal, to have an
3 alternate to confined space procedure is something we
4 shouldn't even go near. It's either a confined space that
5 does require a permit or there's no hazard and it doesn't
6 require it. But there's no such thing as maybe.

7 We have too much gray area in the law right now and
8 we don't need to introduce any more. Thank you.

9 FACILITATOR McLEHAN: Okay. Anyone else? Yes, Lee?

10 MR. SMITH: Yes, Lee Smith, OSHA. I'd like to ask
11 the audience two questions, one of the unique characteristics
12 of confined space in construction --- general industry, we
13 need to get a look at characteristics that pertain
14 specifically to confined space in construction. And the two
15 should assume the --- communication procedures when it should,
16 and all the employees in and around the confined space are
17 aware of the specific hazards.

18 FACILITATOR McLEHAN: Yes?

19 MR. : I won't take up a lot of time to ---
20 one of the things that we have in construction the general
21 industry doesn't have, is our sites change from minute to
22 minute. And I think he talked about that we create our own
23 hazards and often times that's what happens.

24 This room right here, as pristine as it is, doesn't
25 necessarily qualify as a confined space. But if we're cutting

1 up galvanized steel in here with a torch, we've not created an
2 atmospheric hazard and it could kill the majority of the
3 people in here. So, the work that we're doing in the confined
4 space often times creates the hazard, not necessarily the of
5 the confined space being a problem. So, I think that we need
6 to identify the work process, not just the space itself as
7 being part of the requirement.

8 Here again, you go back to the permit that says this
9 is the type of work we're going to be doing in there, we're
10 going to be using a two-part epoxy -- a two-part epoxy is an
11 atmospheric contaminant that absorbs and takes away the oxygen
12 so we have to have respiratory protection. So, I guess I
13 can't over emphasize in my mind the importance of the person
14 writing that confined space permit. That is going to identify
15 not just the obvious hazards, but that potential hazard. It's
16 going to come in and cause the problem down the road.

17 And I think that we need to address not so much the
18 situation itself, or the physical parameters of the confined
19 space as the work that we're doing in there that changes so
20 often.

21 FACILITATOR McLEHAN: Yes, sir?

22 MR. KENNEDY: George Kennedy, NUCA. Two issues. In
23 terms of characteristics of the space, one of the things that
24 we run into in the Underground Contractors is we're putting in
25 new manholes and --- new walls and things like that. We often

1 don't have a lot of dirt or some place to put a tripod or
2 other retrieval device around our system. I know there are
3 some new systems out there that are starting to address this
4 issue, but we don't always have a place to set up for that.
5 Or our situation is different because we're in soft ground or
6 in an open excavation, open area. And that creates problems
7 for some of our members.

8 Entry and exit into the spaces can be delayed or
9 interfered with because of the same reason of having to bridge
10 over too the top of a manhole or climb up the side of it ---.
11 Inside the trench box or something like that. So those are a
12 few of the characteristics that we're dealing with.

13 Also, it is common for us, actually, a lot of
14 horizontal entry into pipes and culverts that can be another
15 problem. And so those are a couple of the characteristics.

16 I need to comment on Hap's comment about alternative
17 space for a moment. Hap and I have some disagreement in this
18 area, mainly because I've heard some of our members that
19 they'd like to see this alternate addressed, but they want it
20 very clearly defined. Which, actually, it making 1040.146,
21 but if you have to do this option or that option, than it's
22 confusing.

23 So if you are going to address an alternate space, I
24 think the whole definition and approach to it needs to be very
25 clear and understood by everybody. And not a lot of issues

1 jumping back and forth from one part of the standard to the
2 other to figure out what we want.

3 FACILITATOR McLEHAN: Thank you. Yes?

4 MR. : I think the issue of a horizontal
5 entry is one that's too often ignored. When I was in general
6 industry in the chemical company, some of our most frequent
7 entries were for horizontal entries. Climbing under a dryer
8 to clean something out and whatnot. We've paid an awful lot
9 of attention lately to the tripods and all the different
10 retrieval devices and the fact remains there's so many spaces
11 where somebody just has to climb in there and pull the guy
12 out.

13 You can have all the ropes and lanyards and belts
14 and whatnot and, eventually, somebodies going to have to climb
15 in there and pull the guy out. It's really what it comes down
16 to.

17 Another concern that I'm having is that many of us
18 in the room are not as mindful of the fact that most
19 construction in the United States, particularly in New
20 England, goes by an electrician and his kit. They're out
21 there running electrical company and they have to climb down
22 into a sup and replace a sup-pump. Not all of us are putting
23 in tunnels through Boston Harbor. not all of us are -- even
24 building the buildings that I built.

25 Most of the regulations that we're crafting today

1 are going to directly impact on a guy whose total profit on a
2 job is going to be \$50.00 or \$100.00. So we have to be
3 mindful of where we make mandates. And if he's got to have a
4 \$2,000.00 retrieval system that may or may not be useable in
5 that given situation.

6 FACILITATOR McLEHAN: Okay. Yes, sir?

7 MR. : I had a comment on the issue of
8 horizontal retrieval. First of all, economical, mechanical
9 needs of horizontal retrieval do already exist for many
10 situations. The equipment --- can even be manufactured, some
11 of it, and some of our esteemed competitors, ---, can also be
12 adapted for more horizontal retrieval.

13 The second an officer issues -- gentlemen, if you
14 have a --- problem as a manufacturer, as a marketing ---
15 manufacturer, please come and tell us. We would be more than
16 happy to work with you.

17 FACILITATOR McLEHAN: Okay. Anyone else? Yes?

18 MR. : I have an issue that I just want to
19 make sure I make it very clear that everybody has talked about
20 money and the principles, but which one of you is going to
21 call my wife and tell her that I'm not coming home today? All
22 the equipment, everything you need, should all be on that
23 focus. You want to stress, again, making the space for the
24 guy, not the worker safe for the space.

25 You have to -- that's your priority. Not the mom

1 and pop guy because I worked for small electrical contracting
2 company, with just me and one other guy. And yes, that
3 \$100.00 profit is all he's taking in for that day. But,
4 again, if he doesn't have the experience and he doesn't have
5 the knowledge.

6 And David will tell you stories of mom and pop
7 operations where the trench caved in, the father drove the son
8 to the hospital and he never made it. So that's a priority
9 that everybody in this room has to take. You have to
10 understand that and I don't know how clear I can possibly make
11 that. That's all I have.

12 FACILITATOR McLEHAN: Thank you. Yes?

13 MR. : Hello, my name is ---. I am a
14 Certified Safety ---. And one thing, I have been involved in
15 safety for almost 25 years now and I'm also a civil engineer.
16 Is what I come across now in my consulting practice quite
17 often is that the person, the plans have been written by
18 someone who doesn't have safety background, doesn't understand
19 the concept of the auxiliary hazards that might exist. And
20 also the implementation. There should be someone on a site or
21 within the company who understands not only the development of
22 the plan and the safety concepts, but also the implementation
23 functioning under the -- person should have some safety
24 background.

25 A certified industrial hygienist, a certified safety

1 professional. Or someone in that area should have some input
2 on the safety plans of the implementation that is going on at
3 these sites.

4 Because quite often, I see they're getting the usual
5 monitor for an individual and as long as it doesn't go over
6 the red line, you're safe. And the person doesn't know what
7 to do when he approaches the red line, or the red light goes
8 off. Or if the batteries are even working. Or the batteries
9 have been dead for three weeks. I've seen that happen also.

10 So that's one of the things that need to be
11 addressed is that qualifying person has to know and implement
12 the plans from a safety point.

13 FACILITATOR McLEHAN: Okay. Anything else?

14 All right, let's walk through our list of OSHA
15 issues and just to kind of heighten your memories and see if
16 you have anything else that you want to share with us.

17 Anything else for definition of confined space in
18 construction? Any other ideas that you want us to take back
19 and consider in development of this standard? Yes?

20 MR. : One more comment on that. The
21 existing standard under general industry standard talks about
22 a space that has restricted access and egress. I don't think
23 that definition goes far enough. I've had some compliance
24 officers tell me that if the sill in the door is higher than
25 "X" than that constitutes a restricted access or egress. And

1 we could be talking about a garage door here. To a
2 construction worker, that's not a restriction at all.

3 Another portion of the general industry standard, it
4 talks about is the space not designed for human occupancy.
5 Well, of course it's not, it's under construction. And it's
6 not done yet. So that aspect of it has to be tightened up.
7 I'm not exactly sure how to do that. So I think when we talk
8 about confined spaces in construction, the definition is
9 vastly different from the general industry definition.

10 FACILITATOR McLEHAN: Any other comments on this
11 first issue? Yes?

12 MR. : One. And I think construction --
13 you may want to make a reference to both permanent and
14 temporary, because you --- and make the construction on a
15 daily basis, the site would be an ongoing changing
16 environment. We have a tendency based on the general industry
17 standard to look at spaces that are fixed locations. They're
18 always there. And in construction, you may have all the
19 hazards of a general industry type space, but it's a temporary
20 condition, we may decide to just --- change in a half an hour,
21 don't worry about that. But there are hazards there so we ---
22 temporary and permanent situations.

23 FACILITATOR McLEHAN: Okay. All right, any
24 additional comments on early warning system?

25 (No response)

1 On continuous monitoring? Yes?

2 MR. : I keep hearing a lot of talk about
3 people monitoring from an attendant's position. I don't think
4 that's the right position to be monitoring with. I believe
5 someone in the first group talked about the atmospheric levels
6 of gas and --- bottom line and --- gas be at the top, and so
7 on. We make it a standard up in the State of Wisconsin that
8 the person in the hole has an --- monitor with them. We don't
9 want the guy up on top to be reacting later if the situation
10 has already overcome the man down below. And there are
11 certainly gentlemen here that make equipment, certainly, have
12 a remote reading and stuff like that, which we use in our
13 company, that give us the reading up on top as well as the man
14 down below. By the time the man up on top takes a reading at
15 the bottom of the hole, and we have a guy going back laterally
16 200 feet, there is an entirely different atmosphere there. So
17 I think that people down the hole have to have continuous
18 monitoring with them.

19 FACILITATOR McLEHAN: Okay. Any other -- yes?

20 MR. MEYERS: Dave Meyers, --- Department of
21 Engineering. I want to back up that point also. The
22 continuous monitoring. If you put in a monitor and it's on
23 the person in the tank, whereas I do agree that the station be
24 made as safe as possible, there are always those unknown
25 hazards that do occur at the space. And systems are out there

1 that can easily utilize the --- monitor on the person.

2 I've seen too many industries unfortunately that are
3 out there that use the monitoring system to just be compliant.
4 And those systems are out there to go well beyond the --- so
5 that the --- happens to ---.

6 One other point, not --- related, but it's training.
7 On an --- system, anybody is going to put out there is the
8 manufacturers and the like, it has to be used and it has
9 to --- conjunction with training. I would certainly love to
10 see someday there --- the current regulations that would make
11 through system training certification, there is some periodic
12 level associated with the entrants, the attendants, and the
13 facility.

14 FACILITATOR McLEHAN: Yes?

15 MR. : There's a lot of confusion, I think
16 too, in air monitoring about what the requirements are for
17 recalibrating air monitoring equipment. And I think that
18 should be written down, not as a manufacturer recommends.
19 They've been talking about doing bump gas testing, I support
20 bump gas testing before entries. And I think that's something
21 that should be addressed in the standard, is what is the
22 requirements for the air monitors. You talk to one air
23 monitor supplier that's doing a recalibrate for a year.
24 That's moronic as far as I'm concerned. We need to address
25 pre-entry testing about gas testing of air monitors.

1 MR. : I want to reiterate on what David
2 said, one thing again, we need to look about the training. We
3 also need to make about, we've got to narrow rescue part, and
4 then we'll have the rescuers --- just on rescues. We need
5 some type of refresher training on there for attendants, entry
6 supervisors also. And, again, on the monitoring, that's going
7 to be something that's going to be specific, the different
8 type of monitor that you're using and they need to also have
9 additional training that needs to be documented and specified
10 also concerning that.

11 FACILITATOR McLEHAN: Did I see another hand up in
12 the air? Okay.

13 All right, any more comments or issues on
14 accommodating small business? We do hear a lot about that.

15 MR. : In talking to some of my members
16 before coming to this program, some small, some large, it
17 seems like their feeling was that when we talk about
18 accommodating small business, that if you're going to do the
19 job, you need to do it according to the required requirements.

20 And, I mean, maybe we can accommodate them in areas
21 of small jobs versus the large tunnel type jobs and things
22 like that, but generally speaking, if they're going to enter
23 into a confined space, they should follow procedures.

24 Because, you know, we get small contractors,
25 bidding, you know -- fly by nights, as we call them sometimes,

1 bidding against large contractors. Or even other small
2 contractors and not putting in that line item for the safety
3 equipment to do the job right in entering into a confined
4 space. And they get the job and they do it wrong. And
5 somebody gets hurt and killed.

6 So, we want to see the workers protected first, and
7 that means that they need to follow the procedures.

8 FACILITATOR McLEHAN: Okay.

9 MR. : One aspect of construction is
10 renovation. And it seems to me that if a company has an
11 existing confined space and calls a construction company in to
12 do a renovation to that space, than it should be the burden of
13 the owning company to do the confined space training for the
14 people who are going to be doing the construction. And that
15 way, everybody's on the same page. Everybody knows exactly
16 what they're going to be doing and who is responsibilities are
17 whose.

18 FACILITATOR McLEHAN: Okay. Yes, Mr. Meade.

19 MR. MEADE: I agree with his comment. The 1910.146
20 standard requires that right now. But the majority of the
21 contractors don't understand that that is a requirement. And
22 I believe that should be referenced in the 1926.36 standard.
23 The 1910.146 requirement that the owner identifying the
24 confined space and informing the incoming contractors what
25 they are and overseeing that program. So, it's in there, but

1 the majority of contractors don't know that.

2 FACILITATOR McLEHAN: Okay.

3 MR. : But what's not in there is an
4 obligation by the contracting company to actually train the
5 guys who they've hired. I mean, yes, it's an obligation to
6 say, okay, we have this hazard and we have this hazard and we
7 have this hazard, but they also need to bring the contractors
8 in and say, okay, these are our on-site rescue people and this
9 is what they're going to do if there's a problem. These are
10 the hazards that you need to deal with and this is the
11 training that you're going to get in regard to those hazards
12 and so forth.

13 There are a lot of companies that completely go at
14 that. I have taken contracts from companies that don't even
15 tell you that you will be going into a confined space. Until
16 you're in the door and there it is.

17 FACILITATOR McLEHAN: Okay. Yes?

18 MR. : I think that we agree with what Hap
19 said that the host employer should advise the contractor that
20 is coming on site. But I think in many cases these employers,
21 if anything, I don't know if they're going to be able to do
22 the training for every time they bring somebody in to do their
23 contracting, but they should at least evaluate the company and
24 determine if they have capabilities to enter a confined space
25 safely. Fill them in and inform them of any unusual hazards

1 or problems they may encounter.

2 But I think you're going to find that a lot of
3 contract people say, my people have been through the training
4 and to go through the training over and over and over again --
5 not that you can't learn more every time you go, you learn.
6 If anything it's going to place a burden on the general
7 industry people as well as the contractor for time and
8 training these people.

9 But I do believe that the host should make sure that
10 contractor is qualified to do that type of work. And if not,
11 than provide the training that's necessary.

12 FACILITATOR McLEHAN: Okay. All right, our last
13 OSHA issue was attendants and supervisors. Any additional
14 comments or concerns or anything you want to say about that?

15 MR. : They didn't say anything about that
16 earlier.

17 MR. KENNEDY: I never go around to comments on
18 attendants versus supervisors, but our membership tends to
19 think, and it's not everybody because there are companies that
20 have their own ways of doing things, but we seem to believe
21 that if you properly train the entry supervisor, he could
22 serve as an attendant on a smaller job, of course. If he's
23 got other duties on the job as a supervisor or foreman, it's
24 going to take him away from the space, that's a different
25 story.

1 But there's no reason that an entry supervisor or a
2 competent person, whatever you decide to call him or her,
3 could serve as an attendant and should certainly qualify, in
4 most cases, to do so. In the case of an attendant being entry
5 supervisor, obviously, he's got to receive additional training
6 to be able to do it. But there's no reason that all these
7 people can't be cross-trained and receive adequate training.
8 At least that's how we feel.

9 FACILITATOR McLEHAN: Yes?

10 MR. : I agree with George. A lot of times
11 when we've got a two man crew out there -- let's say George
12 and I go out and do a repair on a sewer structure or an
13 underground tank, or whatever. I'm going to be the first
14 person in, I'm going to be the entry supervisor because I'm
15 going to make sure it's safe for me to go in. And so on the
16 permit, my name is going to be listed as entry supervisor and
17 first attendant -- would be listed as the entry supervisor and
18 first entrant. George's name would be listed as the attendant
19 while I'm in there. And then if I come out and do some, you
20 know, because we have time constraints sometimes because of
21 heat, cold, or just the work situation itself, we have to do
22 it on a rotational basis, I come out and George goes back in.
23 So my name would be listed as the attendant, his would be
24 listed as the entrant.

25 And that's the value of the entry permit. As a

1 rescuer, if I come up there, if I see the entrant permit
2 there, it's got all the information I need to decide how am I
3 going to do it to assist the people that are in there. And so
4 I think that as far as the attendant and the entry supervisor
5 and so, you know, whether it's the entrant or the attendant, I
6 think the entry supervisor should be the people there at the
7 time to see what's going on and make a judgement call.

8 But I prefer that the first guy go in and has the
9 authority and the training and background to do that. And we
10 train the attendant and the entrants the same way. Because
11 most of the time we're using them interchangeably. So,
12 whether the attendant's outside and is aware of the peripheral
13 hazards, traffic, or rain, or whatever it is, and the
14 entrant's inside working, or the entrant decides to come out
15 and he is now the attendant. And the other guy goes in, they
16 still are aware of the hazards. So we train everybody the
17 same way straight across the board. We don't differentiate
18 between them because sometimes they change positions.

19 FACILITATOR McLEHAN: All right. Yes?

20 MR. : One point that I had wanted to touch
21 on before and that I kind of slipped my mind until this
22 gentleman was talking about recalibrating the certification of
23 monitoring devices is inspection maintenance and
24 recertification of your mechanical devices that you're using,
25 as well as something that we've seen as being a huge problem

1 is the mechanical devices used for entrant retrieval and
2 rescue are not being serviced at recommended intervals.

3 What we have done, the approach that we've taken in
4 solving that problem is that --- a number of monitoring
5 devices into our mechanical products. There's no overload
6 indicators for lifelines. We have built three-quarter
7 indicators into our --- and we've built --- into our ---
8 devices. We built a counter system that keeps track of them
9 and monitors how much that unit has actually used and then we,
10 as a manufacturer, specify, based on our testing and our
11 designs, we specify the minimum servicing intervals for
12 that ---.

13 And I think that it's important that it's
14 regularly --- that it be kept track of, and it be monitored
15 and maintained and recertified by qualifying people at the
16 manufacturer's recommended intervals.

17 FACILITATOR McLEHAN: Okay. Now, we've recapped the
18 OSHA issues and just think real hard whether you have anything
19 else you want us to know about. This is it. So speak now or.
20 Yes, Mr. Pigsley?

21 MR. PIGSLEY: I don't want to keep harping on it,
22 but I think I heard a lot of people here to back it up. If
23 there's anything that you as OSHA can do to facilitate the
24 fire departments getting appropriate training -- that means
25 including them time to get out to our job sites and do hands

1 on rescue to see how our job sites change, I think that's
2 something that really should be addressed. Is to properly
3 fund these people we're calling 911 to come out there and help
4 us to do a job. And they know how to do rescues itself, but
5 it takes them awhile to acquaint themselves with our
6 situation.

7 So, as far as this, if there's something we can do
8 to drag in mandate, or give them extra money to train these
9 rescue people, I think it would be a good idea.

10 FACILITATOR McLEHAN: Yes?

11 MR. : Primarily, I just have a question.
12 You said next year on the proposed standard, approximately
13 what time frame will that be for, or whatever, for
14 comments ---?

15 MR. : (Away from mic) Did I say that ---
16 first.

17 (Laughter)

18 MR. : (Away from mic) --- we have asked
19 our ---. But we intend to do that. And that's --- these
20 meetings. To sum it up and --- changes ---. So we can do
21 that ---. So I ---.

22 FACILITATOR McLEHAN: Okay. We'd like to thank all
23 of you who took the time to attend our meeting today and thank
24 you for your contributions. We've gotten some valuable
25 information and we certainly appreciate your assistance.

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Okay, that's it. Thank you.

(Whereupon, the meeting was adjourned.)