

NATIONAL INSTITUTE FOR  
OCCUPATIONAL SAFETY AND HEALTH  
NATIONAL PERSONAL PROTECTIVE TECHNOLOGY LABORATORIES  
PUBLIC MEETING TO DISCUSS NIOSH'S  
RESPIRATOR STANDARDS DEVELOPMENT EFFORTS

**ORIGINAL**

Thursday, December 9, 2010

Commencing at 8:34 a.m. at the Hyatt Regency  
Pittsburgh International Airport, 1111 Airport  
Boulevard, Pittsburgh, PA 15231.

1 P-R-O-C-E-E-D-I-N-G-S

2 MR. BOORD: If everybody wants to take a  
3 seat, we'll begin.

4 Okay. Well, I'd like to welcome everyone to  
5 the National Personal Protective Technology public  
6 meeting to discuss respirator standards development  
7 efforts.

8 For those of you who don't know me, my name  
9 is Les Boord. I am the Director for the Laboratory,  
10 and again we welcome you here to this meeting.

11 And you know last week -- well, the topic of  
12 the meeting is, obviously, Personal Protective  
13 Technologies and Personal Protective Equipment.

14 Last week, there was a meeting on personal  
15 protective equipment sponsored by the technical  
16 support working group. And the meeting had a very,  
17 very good agenda. And it was in Fort Lauderdale,  
18 Florida, where I think the temperatures were a little  
19 more friendly than they are here today in Pittsburgh.

20 So we certainly commend all of you for  
21 weathering the storm to make it to Pittsburgh for this  
22 pleasant weather that we have in mid-December for this

1 meeting.

2           The agenda that we have today, it must be a  
3 good agenda, because we have very good attendance.  
4 And I was telling John, John Kuhn, a little bit  
5 earlier it must be the agenda or we're giving away a  
6 door prize, and I'm not sure what it is. But we  
7 really have a nice turnout in attendance. So thank  
8 you for coming.

9           But the agenda will cover three topical  
10 areas relative to have our standards and regulation  
11 development in the laboratory and for the institute.

12           And those three topical areas are addressing  
13 the overall process that we develop our standards to  
14 introduce into the regulatory world. A secondary  
15 discussion will be combination type respirators,  
16 self-contained breathing apparatus, air-purifying  
17 system, supplied air all working together in  
18 combination. And then thirdly, an issue -- a topical  
19 issue that has high interest, which is the concept of  
20 buddy-breathing in relationship to self-contained  
21 breathing apparatus.

22           So I think we really have -- have really

1 three good invigorating topics to discuss today and to  
2 gain your insights and perspectives on these topics in  
3 these areas.

4 But I think in addition to those and the  
5 topics that we're talking about relative to PPE and  
6 respirator standards, I think the meeting also has  
7 some other innovation that will be unfolded today as  
8 the day progresses. And I think it's relative to  
9 meeting technology.

10 And we have a number of different avenues to  
11 extend the reach of our meeting to other participants  
12 who would not be able to visit the -- and participate  
13 firsthand in the meeting. So we have LiveMeeting  
14 activities set up to conduct today.

15 And I think we also have the ability to do  
16 Twitter and Facebook. I'm not sure exactly what that  
17 is, but I think we have that capability and it's a new  
18 step in a new direction for these types of meetings.

19 And again, our interest in doing that is  
20 really to extend the reach, so that we can really  
21 reach out and be able to share information and receive  
22 information from a wide array of stakeholders and

1 participants.

2           And so with that again -- again, we welcome  
3 you and I'd like to turn the meeting over to Mr. Jon  
4 Szalajda who has very diligently put together an  
5 agenda, planned today's activities, and organized the  
6 meeting.

7           Jon is the Branch Chief for our Policy and  
8 Standards Development Activities in the laboratory.  
9 So his area and under Jon's direction, the regulation  
10 concept technology development and the rulemaking  
11 activities are managed and directed. So with that,  
12 I'd like to turn the meeting over to Jon.

13           MR. SZALAJDA: Thank you, Les.

14           Just one -- John, before we start if I turn  
15 this chat box off, will that be a problem?

16           MR. PERROTTE: I don't know why that stuff  
17 is on there.

18           MR. SZALAJDA: All right. There, that's  
19 much nicer.

20           Good morning, and I'm very happy to see such  
21 a large turnout for our discussions today.

22           One of the things that I wanted to bring to

1 your attention -- at least for us doing public  
2 meetings going forward -- were we're trying to be a  
3 little greener with regard to the amount paper, paper  
4 that we generate. So the approach that we took for  
5 this meeting was to put all of our NIOSH presentations  
6 on the Internet prior to the meeting, and hopefully  
7 that some of you had an opportunity to look at those  
8 before we came today. But you'll note that the only  
9 paper that you're going to get from us today is going  
10 to be the survey for what you thought about the  
11 meeting.

12 I had a couple of housekeeping things to  
13 address. One, if there is a fire in the building  
14 today, there are various exits from this room along  
15 the side, out the back. If you exit to the left, you  
16 head out towards the parking lot of the hotel. If you  
17 exit to the right, it takes you out towards the moving  
18 walkway and to the airport itself.

19 For restrooms, they're in this hallway to my  
20 left. If you go out the back door and make a left,  
21 they're on both the right and left side.

22 In addition to dining within the hotel and

1 also at the restaurants right before -- right by  
2 security at the airport, the hotel is going to offer a  
3 box lunch today, roughly around 12:30. I hopefully  
4 will be at that point to break for lunch around 12,  
5 12:30, cash only. It's \$12. I don't know what the  
6 selection is, you know. Hopefully, it will be a  
7 pleasant surprise.

8 The evaluations, our survey are going to be  
9 distributed at lunch. If you are going to be leaving  
10 early, if you could complete those surveys before you  
11 leave, and leave them with Charlene outside the back  
12 of the room.

13 And there is also going to be coffee and  
14 pastries; and this afternoon will be coffee and  
15 cookies in the hallway here to my left.

16 And what I'd like to -- at least bring  
17 everyone up to speed. The way we're going to conduct  
18 the meeting today is as -- actually, from our  
19 perspective, it's three different meetings.

20 One is going to be the discussion of what we  
21 envision as our Regulatory Agenda for Respiratory  
22 Protective Devices. We're also going to have a

1 discussion regarding CBRN Combination Respirator  
2 Units. And we're also going to have a discussion on  
3 the SCBA emergency escape support breathing system, or  
4 otherwise known as the buddy-breather.

5 We have several presentation guest  
6 presenters who will be making presentations during the  
7 Combination Respirator Unit topic, as well as the  
8 buddy-breathing topic.

9 One of those will be done using LiveMeeting,  
10 which should be an interesting treat for us. But  
11 we'll see how that works out. And again, it's a  
12 learning experience for us and we'll hope that you  
13 bear with us as we move along.

14 These are the areas on the NIOSH docket  
15 where we placed information regarding the topics for  
16 today's meeting. As I had mentioned, the  
17 presentations that NIOSH is delivering are available  
18 now on the site and they've been up, I think, for  
19 about a week, week to 10 days, on the docket.

20 We have been receiving some docket comments  
21 already with regard to the information that was posted  
22 to the Internet. And what I would encourage you to do



1 is after the meeting to periodically check the docket  
2 for the inclusion of new information.

3           The presentations that we'll hear today with  
4 regard to the Combination Respirator Unit and  
5 buddy-breathing will be placed in the docket within  
6 the next couple of weeks. The transcript for this  
7 meeting will also be placed in the docket upon its  
8 completion.

9           So why are we here today, other than I  
10 thought it was a good idea to have the meeting in  
11 Pittsburgh in December?

12           But, one, we wanted to -- part of what we're  
13 trying to do is to share information with our  
14 stakeholders with regard to things that we're working  
15 on, as well as things that you feel are important for  
16 us to address, and with regard to our projects, our  
17 programs, and how we do business.

18           And it also provides -- this meeting also  
19 provides a forum for you, the stakeholder, to give us  
20 feedback with regard to the work that we're doing.

21           So with our meeting format, it's a  
22 combination of presentations and discussion. What I

1 would like to try to do as we move through the  
2 presentations is if you can limit your questions  
3 following each of the presentations, because we've  
4 built in a panel discussion opportunity at the end of  
5 each of the sessions where the different presenters  
6 and NIOSH can interact with you with regard to topics  
7 that we've selected that we're looking for particular  
8 feedback with regard to each of the areas that we're  
9 discussing today.

10           And as Les had mentioned, we are using  
11 LiveMeeting access. So from that standpoint, what  
12 we'll need to do for the people that are participating  
13 via LiveMeeting, we need to use the microphone so that  
14 will allow them to hear the discussion that's going  
15 on.

16           And this was a big step for us, at least in  
17 terms of pursuing social media. And for the future --  
18 future reference that these are the two links that  
19 NIOSH is currently using with regard to how we can put  
20 little snippets of information out on Twitter and also  
21 on Facebook.

22           And I think, you know, for people my age

1 that if you look at your kids, you know, they probably  
2 know exactly what this is, how to manipulate it, how  
3 to input things. And for me it's a strange -- strange  
4 and scary new world. But part of what we're trying to  
5 do, as Les had mentioned, with using this type of  
6 media is to outreach to people that you wouldn't think  
7 of would come to these public meetings, you know,  
8 because of time or other activities that they're  
9 involved with. They're used to getting their  
10 information a different way, and that's through short  
11 bursts. And our foray into using this social media is  
12 an attempt to try to reach that potential audience.

13 And part of the discussion that we'll have  
14 today is we'll also try to incorporate any feedback  
15 that we get from either Twitter or Facebook as part of  
16 our discussions.

17 If you haven't registered for the meeting  
18 already, I'd encourage you to do so. I know some  
19 people snuck in the side doors. But we like to  
20 capture your participation in the meeting. And if you  
21 could register with Charlene at your convenience  
22 during the course of the day, I would appreciate that.

1           As I had mentioned, everything is being  
2 recorded. The meeting will be transcribed and the  
3 products of the transcription will be available in all  
4 three dockets.

5           We're going to do our presentations in  
6 accordance with the agenda. And the flexibility that  
7 I hope to use today is I want to start -- the start  
8 times, I think, need to be fixed, especially in  
9 relation to our LiveMeeting participants.

10           So at 10:15, we're going to move into the  
11 Combination Respirator Unit discussions. At 1:30 this  
12 afternoon, we're going to move into buddy-breathing.  
13 I'd like to try to maintain a little bit of  
14 flexibility based on how the discussions are going to  
15 introduce breaks to allow us to stretch our legs and  
16 get away from PowerPoint for a little bit.

17           I mentioned the survey. You know, please  
18 complete that. It's a good tool for us to get  
19 feedback that whether or not our meeting -- this  
20 format is meeting your needs with regard to  
21 information exchanged.

22           And as I had mentioned with the discussion,

1 the way we're going to conduct the meeting is there  
2 will be several presentations. At the end of the  
3 presentations, we'll take a short number of questions.  
4 We'll go in order from the participants here in the  
5 room, then we'll go to LiveMeeting, and then we'll see  
6 if we get anything with regard to the social media.  
7 And we'll do that for each topic as we go through.

8           Also if you're interested in making a  
9 presentation and you haven't notified us already, if  
10 you could see Charlene in the back and we will work to  
11 accommodate your request for making a presentation  
12 during the course of the meeting.

13           I also wanted to mention at this session  
14 that we have an upcoming program stakeholder meeting  
15 in March, for March 29th, will be conducted in this  
16 facility. And it's -- the focus on this meeting is  
17 going to be primarily in four of our sector areas:  
18 Health care, mining, agriculture, and public safety.  
19 And also Gordon Graham will be the keynote speaker.  
20 And if you've had the opportunity to hear Mr. Graham  
21 speak, he's very entertaining but also very topical.  
22 And I encourage you to track information regarding the

1 PPT Stakeholder Meeting through our website.

2           And so with that, I need to give you the  
3 obligatory NIOSH disclaimer that our discussions  
4 shouldn't be construed by -- to reflect NIOSH policy  
5 unless you see other documents that say it's NIOSH  
6 policy.

7           And I left this slide up for Les. And I  
8 think it was a point that -- and we changed our agenda  
9 a little bit. But I wanted to at least mention my  
10 perspective on the vision and mission. And I had  
11 mentioned this last week at the TSWG Conference. And  
12 I think when you look at the completion of the mission  
13 of the PPT program, it's not just NPPTL. It's all of  
14 us. It's the stakeholders who have an interest in  
15 personal protective technology that forward the  
16 mission. I mean NPPTL can only do so much because of,  
17 you know, our resource limitations.

18           But you know, one of the things I think is  
19 important for us in moving forward is to be able to  
20 leverage things that are being done in the community  
21 and bring that into focus to protect worker safety and  
22 health.

1 And so with that, the overview is complete.

2 Any questions with regard to the conduct of  
3 the meeting?

4 No? John, anything from LiveMeeting?

5 MR. PERROTTE: No.

6 MR. SZALAJDA: Anything on social media?

7 No. Okay.

8 All right. Then we'll begin the regulatory  
9 agenda part of the meeting.

10 And John, I'll need the slides.

11 At least with regard to what I would like to  
12 try to accomplish today, one of the things that you  
13 may have seen in the news and discussions that have  
14 gone forward in the media and other places is a  
15 recognition or reinforcement of the need for the  
16 government to conduct its business in a transparent  
17 fashion. And it's like, well, what does that mean?

18 And I think from a standpoint, at least  
19 within our organization, you know, we try to focus and  
20 encourage public participation with what we do. And  
21 since the establishment of NPPTL, we have conducted  
22 several public meetings over the years to discuss

1 various performance concepts for respiratory  
2 protection.

3           We've conducted program meetings for  
4 Personal Protective Technology to share information.  
5 And I think with this topic today, part of what I  
6 wanted to do is share some of the lessons that we  
7 learned in rulemaking, and some of them have been hard  
8 lessons.

9           And I think for a variety of reasons that  
10 I'm not going to go into detail about, but I think in  
11 moving forward I want to try to take advantage and  
12 share some of the lessons that we have learned with  
13 regard to the process and the products that we are  
14 generating to update the Code of Federal Regulations  
15 and also to increase stakeholder awareness with regard  
16 to how you can participate in the process, as well as,  
17 you know, increase awareness with regard to what  
18 certain things mean.

19           And the longer that I've been with NIOSH,  
20 the more important it's been for me to recognize and  
21 define common terms and define frames of reference  
22 that we all can use in terms of moving forward with



1 different projects.

2           So the first part of the presentation covers  
3 the rules for the road, which is going to give you a  
4 10,000 foot view of rulemaking. And I know at least  
5 with my branch, I got to say at times I paint with a  
6 roller or a six-inch brush instead of using a fine  
7 brush, you know, with regard to topics. But I think  
8 at least in terms of setting the agenda, the finest,  
9 the detail comes along as we move and identify and  
10 establish various products -- you know, various  
11 regulatory products as we move through the agenda.

12           The path forward that I'm going to share is  
13 at least our three-year view of what we think is going  
14 to transpose in the industry. Part of that is a  
15 spin-off of a briefing that we gave Dr. Howard, NIOSH  
16 Director, a few months ago with regard to what we  
17 thought the regulatory agenda should be for NPPTL and  
18 for NIOSH with regard to respirators.

19           And what Dr. Howard's suggestion was, was  
20 that we look at not just the three-year program, but  
21 the five-year program. And in looking at the -- at  
22 trying to establish a five-year program, it was

1   apparent to me that what I needed to do was conduct  
2   this meeting and to get feedback from stakeholders  
3   such as yourselves to help us determine the types of  
4   things that we need to be working on. And it will  
5   also be an opportunity for comments and questions at  
6   the end of the presentation.

7           It's interesting, you know, as part of any  
8   meeting you do a certain amount of preparation and try  
9   to identify sources and things that you can use to  
10   further your discussion. And with regard to this  
11   topic on the Internet in a magazine called "Inside EHS  
12   Today," I found an article that was generated by a  
13   fellow name William Harris, who I believe works for  
14   3M. And it was entitled how regulation innovation  
15   have shaped respiratory protection. And I found it to  
16   be a very interesting article from the perspective  
17   that it gave a history of why respiratory protection  
18   regulations exist as well as different things that  
19   have happened over the years that cause changes to the  
20   regulation.

21           You know, the one thing to keep in mind is  
22   with the development of a regulation is that Congress

1 sets the statute. Congress sets the law. You know,  
2 in our case, the Mine, Safety and Health Act and OSHA  
3 Acts identify the need to use NIOSH approved  
4 respiratory protective devices if they were required  
5 in the work place.

6 And it's interesting that when you look back  
7 at the history, that was 1970; '70, '72 time frame  
8 when that happened. But when you go back and look at  
9 the predecessor regulations 30 CFR Part 11 and then  
10 even other regulations that go further back, that  
11 things were -- regulations were implemented as a  
12 result of a tragedy, you know.

13 And I think in particular with the  
14 respiratory protection regulations you look back and  
15 there is a huge industrial accident in West Virginia,  
16 where almost 500 workers died because of exposure to  
17 silica and 1500 workers remain ill because of the  
18 exposure, and now it's because of a lack of  
19 standards -- a lack of respiratory protection  
20 standards and the use in the work force.

21 So I think we can all recognize and  
22 appreciate that. Even though while

1 Congress sets the statute, the regulations add the  
2 technology and the economic and the industrial  
3 expertise that needs to be necessary to define what  
4 performance requirements should be for respirators.

5           So when you look at the rulemaking process,  
6 the rules for us are governed by the Administration  
7 Procedure Act. And as far as the deformation of a  
8 rule, for either the APA, it's fairly straightforward.  
9 But really the common purposes are that it adds  
10 scientific expertise. You know, the law may say they  
11 be very -- it's like the Jon Szalajda perspective in  
12 the Broad Brush, and they say a very general statement  
13 that he need respiratory protection. But the law  
14 won't go into the detail as far as, you know, what  
15 that respiratory protection should be.

16           So the regulations can add scientific  
17 expertise. It can also add implementation detail, at  
18 least with regard to how the statute, how the law  
19 should be implemented. It also theoretically adds  
20 flexibility. And by that I mean that regulations  
21 should be easier to change than changing the law.

22           And even though that necessarily hasn't been

1 our experience to date, in theory it should be easier  
2 to change a regulation because it's not statute than  
3 it would be otherwise.

4 And then also another purpose of rulemaking  
5 is to be able to find compromise, you know with  
6 regard to if you're dealing with a very sensitive  
7 subject that the implementation of the law, you know,  
8 might be able to find a way to address the concerns of  
9 all the parties.

10 Rulemaking is basically the process for  
11 formulating, amending, or repealing a rule. I think  
12 what's a very important feature of the process is that  
13 the public gets a 30-day window, or a minimum of a  
14 30-day window for our implementation. And that gives  
15 an opportunity that if there are issues with the  
16 public or interested parties with regard to the  
17 content of rule, it gives them an opportunity to state  
18 their objection before it's codified and put into the  
19 federal rule, the Code of Federal Regulations

20 I wanted to mention as the main point for  
21 this slide that part of what we do within NIOSH is  
22 maintain a docket, an information docket which

1 includes all of the information that we use in the  
2 development of the performance requirements and other  
3 aspects of the regulation, proposed regulation.

4           There's -- actually for us, and it was  
5 something that we learned along the way, there's two  
6 means of doing that. One is a submittal to our  
7 docket, the NIOSH office. And during the course of  
8 the day, you'll see slides which indicate make your  
9 submittal either by e-mail or mail or other mechanisms  
10 to the docket office, and it will give you a number.

11           The government's docket is regulations.gov  
12 and part of what we had to do with regard to things  
13 that we have in the rulemaking process is establish a  
14 link between the NIOSH docket and regulations.gov.

15           I think if you're familiar with some of the  
16 things that we've done in recent years that we've  
17 created what NIOSH calls Information Dockets, you  
18 know, for meetings such as today where we start  
19 accumulating information with regard to our current  
20 thoughts on any particular subject.

21           Those Information Dockets all become part of  
22 the record and part of our deliberations. When we get

1 to the actual Rulemaking phase, then you'll see that  
2 link with regulations.gov and there will be a sharing  
3 of information between the contents of what's in those  
4 two dockets.

5 But the one thing to keep in mind with the  
6 docket also, it's publicly accessible. So anything  
7 that you would submit to the docket will become part  
8 of the permanent record. So we encourage people not  
9 to submit things that may be company confidential or  
10 personal in nature with regard to the information  
11 that's submitted.

12 And as I had mentioned, once the regulation  
13 is published and takes effect, then that's what's  
14 called a final rule. And then you'll see something on  
15 this NIOSH website that the rule has been finalized,  
16 and it will be published in the Federal Register

17 Another aspect that you should be aware of  
18 that we need to consider with regard to our activities  
19 is Executive Order 12866, which was implemented during  
20 the Clinton Administration. And part of that is  
21 there's a list of regulatory activities that we need  
22 to conduct internally as part of the rulemaking

1 process.

2           Some of significant ones that are identified  
3 are that we have to do an assessment if there's an  
4 annual effect on the economy of a hundred million  
5 dollars or more with regard to the implementation of  
6 the rule. We also have to do an assessment with  
7 whether or not our proposed regulation interferes with  
8 any of the other actions planned by other federal  
9 agencies. And we also have to do an assessment of  
10 whether the implementation of this rule raises a novel  
11 legal or policy issues with regard to how the  
12 government does business.

13           If we determine that the rule is  
14 economically significant, if it meets that hundred  
15 million dollar threshold, we have to do a process,  
16 which is cost benefit analysis, and that is work with  
17 an organization called "OIRA," which I believe is the  
18 Office of Internal and Regulatory Affairs as part of  
19 OMB. And they review this cost benefit assessment  
20 with regard to the implementation of the rule to make  
21 sure that, you know, our assessment is accurate and  
22 the findings that we are issuing in the rule are



1 appropriate.

2           There's also analysis requirements as part  
3 of the executive order to do things like the  
4 Regulatory Flexibility Act, the Paperwork Reduction  
5 Act. There's a list of several things that we need to  
6 consider with regard to the rulemaking process. And  
7 that when you see the actual development of the rule,  
8 you'll see categories of the rule which address those  
9 particular analyses that need to be completed.

10           In doing the -- in assembling this  
11 presentation, there are several links on the OMB  
12 website, which if you are interested in the process  
13 and how OMB looks at the perspective, that can provide  
14 you some insights as well. There's also -- I didn't  
15 include this link from the American Bar Association,  
16 but I probably will make that part of the docket if  
17 you are interested. That gives a very good synopsis  
18 of the process as well.

19           Another aspect of the executive order also  
20 requires regulatory agencies to submit their plan.  
21 And NIOSH's formal approach to submitting the plan is  
22 identified in the unified agenda, which is available

1 on the NIOSH website. And that will tell you what our  
2 anticipated regulatory activities are over the  
3 upcoming year.

4 Just as an aside, there are a couple of  
5 seats. If you guys want to sit, there's a couple  
6 seats located up here towards the front and other  
7 spots, because I could be long-winded.

8 The process that NIOSH uses with regard to  
9 the rulemaking process is called informal rulemaking.  
10 And another way it's been termed is also notice and  
11 comment rulemaking.

12 The APA in one section sets forth and makes  
13 a distinction between formal rulemaking requirements  
14 and informal rulemaking requirements. And I think  
15 that -- I'm not a lawyer. But the bottom line to me  
16 was formal requirements are things where you involve  
17 the courts. You know, it's a trial type procedure  
18 with regard to the rulemaking activities.

19 The informal, the notice and comment period,  
20 or the notice and comment types of rulemaking are more  
21 geared toward agencies allowing and creating the  
22 opportunities for public participation with

1 rulemaking.

2           These are some of the tools you may see us  
3 use going forward with regard to the rulemaking  
4 process. The one is Advance Notice of Proposed  
5 Rulemaking. And from that standpoint what this does  
6 is it basically puts the community on notice that we  
7 are developing a regulation to change the -- Part 84  
8 to change the standard.

9           And what's nice about the advance notice is  
10 it's very technical in nature that it focuses on what  
11 we think the performance requirements are and other  
12 technical requirements are associated with the  
13 particular topic that we're trying to address. It  
14 doesn't include the regulatory language. It doesn't  
15 include the regulatory flexibility act analysis and  
16 those types of parameters.

17           Another couple of types of formal rulemaking  
18 are interim final rule and direct final rule. And I  
19 was trying to think of an example of where we could  
20 have used an interim final rule in the past. And if  
21 you're familiar with the CBRN respirator program, we  
22 use provisions in Part 84 which allowed us to identify

1 performance criteria for those types of respirators  
2 and we implemented that using policy.

3           But if we had been forced to go into the  
4 rulemaking process, we could have used an interim  
5 final rule, which would have allowed us to issue the  
6 rule and then accept comments on it after it was  
7 issued. And I think if you would recall at the time  
8 frame when the CBRN standards first started out, this  
9 was post 911 and there was a sense of urgency to issue  
10 and have these protections available and equipment for  
11 the responder community.

12           You know, in hindsight in looking back, had  
13 we not had the policy provisions in place in order to  
14 be able to meet that emergency requirement, we could  
15 have gone and used an interim final rule. So with the  
16 advance notice, these are the types of things that you  
17 would see from us when that comes forward.

18           We may or may not conduct public meetings.  
19 I think it's in our best interest to be able to share  
20 the information as part of trying to be transparent  
21 and share information with the stakeholders. It's in  
22 our best interest to share with you the results of any

1 research that we may have done, as well as allow the  
2 stakeholder community to share information with us as  
3 well.

4           And I think the one thing that's nice about  
5 the advance notice is it's -- I hate to use the term  
6 "formalize the informal process," but it does put the  
7 community on notice that we are working on something  
8 and we are seriously identifying technical  
9 requirements to go and use to update a regulation.

10           So a couple of the features of the Notice of  
11 Proposed Rulemaking, as well as final rule, and at  
12 least for us we've had three NPRMs in the past three  
13 years with the closed-circuit escape respirator, the  
14 quality assurance provisions, and the total inward  
15 leakage program for half-mask and filtering facepiece  
16 respirators. But if you go back and you look at those  
17 as products, they contain all these items that -- you  
18 know, and I think it focuses on the bases of the rule  
19 and then discusses the impacts.

20           And I think one of the things that we've  
21 learned, you know, with regard to the NPRMs is that --  
22 which has had -- excuse me -- had us look seriously in

1 the advance notices that we always got requests for  
2 extensions and that we need more time, you know, to  
3 do -- to develop data. We need more time to assess  
4 the products.

5           And my hope is with the introduction of the  
6 advance notice of propose rulemaking that that will  
7 give the community an opportunity to address these  
8 types of things before we get to the Notice of  
9 Proposed Rule phase.

10           And then the final rule, basically that's in  
11 the finalization of the document, the finalization of  
12 the regulatory text which goes into the Code of  
13 Federal Regulations, which is ultimately published.  
14 It specifies an effective date and a minimum of 30  
15 days after the publication. It could be longer. And  
16 that's up to the discretion of the agency.

17           It also addresses -- you know, part of the  
18 requirements are to address our requirements. In  
19 developing the information is to address public  
20 comments. And while we may not address every comment  
21 specifically and individually, we do at least  
22 anecdotally address all the comments. And it is part

1 of -- that deliberation is part of our process in the  
2 finalization of the rule.

3           So again, to me, the big point of the whole  
4 process is transparency and giving the community an  
5 opportunity to participate in the process. And as for  
6 the public, the public meeting options come into play.  
7 And we have done that with the different rules that  
8 we've proposed so far and will continue to do that  
9 with rules that we are developing here over the next  
10 several years.

11           And the final rule. I's -- I would imagine  
12 if I were on the manufacturer's side and some of the  
13 stakeholders' side of the fence, you wonder what  
14 happens behind the curtain. And I'm kind of reminded  
15 of the Wizard of Oz, you know, pay no attention to  
16 that man behind the curtain. But there are, even  
17 though things may disappear from your view, there is  
18 still activity that's occurring behind the scenes that  
19 you're not necessarily seeing with regard to how the  
20 rules are being finalized and moving through.

21           And there are several things that need to be  
22 done. And I think the big thing to me is the last

1 bullet, which is the agency department and the  
2 executive department clearance, and that takes time.

3           And from the time that we do our due  
4 diligence within NPPTL, the institute does its due  
5 diligence with regard to the content of the rule. CDC  
6 does its due diligence. The Department of Health and  
7 Human Services does its diligence. This all takes  
8 time.

9           And for the most part agencies do not have  
10 defined time frames to keep the rule moving. And so  
11 we do what we can, you know, working with the staff  
12 that supports us on these activities to help keep  
13 these things moving along.

14           Now, when you get to the end of the cycle  
15 and you get to OMB, OMB does have a clock, you know.  
16 It's with regard to reviewing the administration, and  
17 it's and reviewing the evolution of the rule. And the  
18 clock is either 45 days or 90 days, from what I can  
19 tell out of the information I've reviewed.

20           The 45 days is basically if there's no  
21 substantial changes to the supporting information, no  
22 substantial changes to the economic analyses and the



1 regulatory flexibility act analyses and those types of  
2 things. Now, don't quote me on that because it's my  
3 interpretation of what I read. But you know, just the  
4 key point is to keep in mind that once we get through  
5 the departmental clearance, then there is a clock.  
6 And then from that standpoint you're looking at  
7 probably no more than 90 days before the rule is  
8 published.

9           So that kind of covers the rules of the  
10 road. You know -- and again, I think -- and I welcome  
11 any comments or dialogue that you'd like to have with  
12 regard to this perspective, but I felt it was  
13 important to at least give you the thousand foot level  
14 of rulemaking. In hindsight, there's a CDC attorney  
15 name James Holt that we've worked with in the past,  
16 and he does an excellent presentation with regard to  
17 getting into the nitty-gritty of rulemaking. And I'm  
18 considering making that also available as well, you  
19 know, on the docket if you're interested in having  
20 that information available.

21           One of the things that you'll often see in  
22 an NPPTL presentation is relevance and an impact that

1 we'll talk about with regard to the organization's  
2 mission.

3           And in the past several years, there's a  
4 National Academy review of the personal protective  
5 technology program, and this is a quote out of the --  
6 out of their findings and their review that the NIOSH  
7 certification program for respirators has significant  
8 positive impact on the quality of respirators  
9 available in the work place.

10           And I think that's attributed to a couple of  
11 different things. One is I think it's attributed to  
12 the professionalism and the performance of the NPPTL  
13 staff with regard to certification activities and  
14 being able to take the requirements that are  
15 identified and use them to assure that products  
16 perform as they're intended. I think it's also  
17 attributed to the industry with regard to, you know,  
18 coming up and implementing innovative technologies and  
19 even to some extent pushing how we do our business  
20 with the NIOSH to be able to address the evolution of  
21 technologies and the implementation of those with  
22 regard to different respirator products.

1           But then it's also a user issue that users  
2 look for the brand, you know. And with regard to  
3 things that we've heard, you know, feedback from  
4 people around the world that the NIOSH brand means  
5 something. The NIOSH brand means that this respirator  
6 provides a certain level of performance and people now  
7 have an expectation and know what they're getting when  
8 they buy a NIOSH certified respirator.

9           I also wanted to mention that there was  
10 recently an additional National Academies Report  
11 generated which looked at the certification of  
12 personal protective technologies as a whole. And I  
13 didn't want to get into a lot of detail, you know,  
14 with regard to that because it looks at activities  
15 other than respiratory protection. But it is an  
16 interest read, and I would encourage you to look at it  
17 because it does draw some interesting -- make some  
18 interesting recommendations, at least in looking at  
19 other technologies in comparison with respiratory  
20 protection.

21           Another factor that we consider, you know,  
22 with regard to the certification program is our

1 standards development organization support. And I  
2 think many people are familiar with an OMB Circular  
3 called A119, which encourages federal agencies to use  
4 national and international standards where it's  
5 feasible and consistent with established laws and  
6 regulations, and that's one thing that we have taken  
7 very seriously with regard to our participation in  
8 these organizations.

9 I think the statute or the circular also  
10 goes on to state that it promotes federal agency  
11 participation in concensus standards bodies by federal  
12 employees. And we have taken that very seriously as  
13 well.

14 I think when you look at NFPA, ASTM, ANSI  
15 and ISO, various NPPTL personnel have leadership roles  
16 with regard to several important committees that are  
17 identifying performance standards for various pieces  
18 of personal protective technologies. And I think, you  
19 know, in particular if you look at NFPA, the standards  
20 that evolve for 1981 for respiratory protection, also  
21 the upcoming Wildland Firefighter Respirator Standard  
22 in that NFPA 1984.

1           ASTM, we play an active role with the F23  
2 Committee with Angie Shepherd and Bill Haskell to look  
3 at test methods to evaluate various performance  
4 aspects of personal protective technologies, including  
5 respirators.

6           With ANSI, we participate in all the ANSI  
7 committees. I recently became the vice chairman of  
8 Z88.2, which is the respirator protection standard.  
9 We have also participated in other standards  
10 activities like the color coding of canisters and  
11 cartridges.

12           Also with ISO. The ISO is coming. And  
13 there is, you know, an international effort looking at  
14 identifying and establishing a respiratory protective  
15 standard. And Bill Newcomb from NPPTL leads the  
16 USTAG, the U.S. Technical Advisory Group, for  
17 supporting the types of requirements that go into ISO.

18           And from that standpoint we're  
19 well-leveraged, you know, with regard to how these  
20 products are being developed, and hopefully providing  
21 opportunities for outcomes where they take our outputs  
22 and use them with regard to those standards.

1           Now, this is a little detailed and it may  
2 not become completely clear. I think if you get the  
3 paper copy off the website, it's a little more  
4 straightforward. But this is what we envision as our  
5 three-year timeline with regard to the various modules  
6 that we're working on. There's no particular priority  
7 with regard to the modules that are listed, you know,  
8 at least in terms of what's being worked first.

9           I will say that with regard to things where  
10 we are already in the notice of proposed rulemaking  
11 final rule part of the process that those activities  
12 have priority over any of the new things that are  
13 evolving. And I want to spend at least a couple  
14 minutes talking about these different activities that  
15 are undergoing

16           We made a decision to combine the Powered  
17 Air-Purifying Respirator and the Supplied Air  
18 Respirator standard into one module, and for a couple  
19 of different reasons.

20           One, NIOSH made a commitment to OSHA several  
21 years ago that with regard to developing the Total  
22 Inward Leakage performance requirements that we would

1 do that. We would establish Total Inward Leakage  
2 performance requirements for those two categories of  
3 respirators. This module does that.

4 We've also taken an approach that we're  
5 going to try to use results and material out of other  
6 standards, and particularly for this standard, ISO  
7 standards with regard to how we evaluate respirator  
8 performance, and in particular for these work rates.  
9 And the work rates that we're envisioning using with  
10 regard to the PAPR and the Supplied Air Respirator are  
11 reflective of what has been considered by ISO with  
12 regard to their standards requirements.

13 We're also looking at updating the fee  
14 structure for 42 CFR Part 84. One of the things that  
15 came out our of National Academy process was the fact  
16 that the fee structure has not been updated since  
17 1972. So whether it's a bargain or not, it's hard to  
18 say, you know, with regard to the testing costs that  
19 we charge applicants. But we have taken a serious  
20 look at, you know, how we do our business internally  
21 within the laboratory and reflecting in those business  
22 functions with regard to what we charge for supporting

1 the certification activities. You're going to see  
2 that in fiscal year 11.

3 Also in fiscal year 11, we made another  
4 commitment to the fire service to establish a  
5 regulation to modify the end of service time indicator  
6 for the SCBA, the Open-Circuit SCBA; that there was  
7 request for us to look at changing a paragraph in the  
8 regulation from where we specified a range of values  
9 to changing that to be a minimum value. And we're in  
10 the process of doing that as well.

11 Again, it's a result of, you know,  
12 stakeholder involvement and a commitment to a  
13 stakeholder.

14 We're also looking at completing the Closed-  
15 Circuit Self-Contained Breathing Apparatus standard.  
16 And part of when you look at the Closed-Circuit SCBA,  
17 it's an evolution out of our CBRN program. At some  
18 point during the past decade the department advised us  
19 or directed us that for rulemaking activities to  
20 incorporate CBRN, that we would do that through the  
21 rulemaking process.

22 Well, for Closed-Circuit SCBA, that was the



1 next item that we were working on with regard to  
2 developing the CBRN requirements, so we transitioned  
3 that into a rulemaking activity. You know, that's  
4 also going to come to light during the course of the  
5 upcoming fiscal year.

6 And then we have a couple of other  
7 activities where we're investing resources. One is  
8 what we're talking about today with the Combination  
9 Unit Respirators. And I think this is an opportunity  
10 for participation for all of us, because I think this  
11 is the next evolution of respiratory protection when  
12 you look at respirators that can be used in multiple  
13 modes.

14 You know, I think historically when you look  
15 at what we've done in the past 10 or 20 years, that  
16 we've looked at technologies where we have improved  
17 the capabilities of respirators as are currently  
18 certified in Part 84. We've done things to make them  
19 rugged to enhance human performance. But we haven't  
20 come up with a new technology in short of having the  
21 Star Trek, I'm going to put this little clip on my  
22 nose and I'll have breathing air.

1           You know, I think the combination unit is a  
2 step in the evolution of respiratory protection. And  
3 I think with regard to what we're doing with the CBRN  
4 program, it's a blank slate. So from that standpoint,  
5 it's an opportunity for us to create the performance  
6 requirements that are necessary for that respirator.

7           And then the last activity is the air-fed  
8 ensemble. And this program evolved out of discussions  
9 and needs identified to us by the Department of Energy  
10 for a standard for a respirator where the suit is the  
11 respirator. And we're looking at introducing that to  
12 the community very early next fiscal year for comment  
13 using the Advance Notice of Proposed Rulemaking phase.

14           And with regard to things that are already  
15 in the mill that some of you may be familiar with, the  
16 docket comment for Notice of Proposed Rulemaking has  
17 closed for the closed-circuit escape Respirator  
18 commonly used in mining, the QA Module, and the Total  
19 Inward Leakage for Half-Mark in Filtering Facepieces.  
20 And these are all activities which are part of our  
21 regulatory agenda and really not topics for today, but  
22 we wanted to, you know, remind you and let you know

1 that these things haven't been forgotten and are still  
2 part of our regulatory agenda in moving forward.

3           The other aspect of this slide to keep in  
4 mind, I think, is to look at the impact of our  
5 national and international concensus standards  
6 activities. And I had mentioned ISO. I think when  
7 you look at the amount of time and effort that have  
8 gone into the standard from an international basis,  
9 it's incumbent on us to take a look at that and be  
10 able to leverage those resources as well as leveraging  
11 work that's done within ANSI. I think with the Z88.2,  
12 there's some resolution coming with regard to the  
13 development of the respiratory protection standard. I  
14 put the date of 2015 in there because I'm optimistic  
15 that, you know, as a result of resolution of some  
16 other, the current issues associated with previous  
17 drafts that we will be moving forward with that  
18 standard. And whether it's a standard as it currently  
19 exist or a modified version, there will be a standard.

20           And again, ANSI has prescribed time frames  
21 when they look to have the standards developed within.  
22 So those activities are ongoing.

1           We also have the NFPA standards, 1981 and  
2 1984 and additional opportunities for leveraging.  
3 There's collective resources that have gone into the  
4 development of those standards and using them to make  
5 the NIOSH standard better. And the commitment that I  
6 have to you is that we take these standards seriously.

7           And in terms of you helping us define how we  
8 move forward, I think these are important things to  
9 keep into mind with regard to the content and the  
10 technical and performance requirements that go along  
11 with those standards and how we can within NIOSH  
12 utilize those consensus standards to improve how we do  
13 business under Part 84.

14           So in summary, I, you know, talked a little  
15 bit about the movements used, national and  
16 international concensus standards and I think when you  
17 look at the rulemaking process, the regulation gives  
18 us the tools to test and certify the respirators. And  
19 it's incumbent on us using this type of process to  
20 define the content of the standards for respiratory  
21 protection.

22           And part of what we had put forth and wanted

1 to get stakeholder feedback were these questions where  
2 we're specifically seeking input from you and the  
3 community with regard to how we should be moving  
4 forward beyond our three years that I had projected.

5           You know, the first is what classes of  
6 respirators do you in the community see having the  
7 most need that we should address in the regulatory  
8 agenda? Again, the aspects of national/international  
9 standards that we should consider in updates to  
10 Part 84.

11           I'm trying to think. We also tried to think  
12 outside the box a little bit with a couple of things.  
13 And one of the aspects was -- and then it goes back  
14 to, I think, a comment I had made earlier was, you  
15 know, with regard to -- theoretically the regulation  
16 is easier to change than the law.

17           But now our experience has been, you know,  
18 changing regulations isn't that easy either. So from  
19 that standpoint, should we take an approach to look  
20 within the context of defining Part 84 that we remove  
21 specific performance requirements outside of the  
22 regulation?

1           Another aspect -- another outside the box  
2 aspect was looking at sector performance requirements  
3 or basing the regulation on sector specific  
4 performance requirements that these particular  
5 requirements are appropriate for health care. These  
6 requirements are appropriate for public service.  
7 These requirements are appropriate for construction.

8           And instead of having a one stop shop that  
9 this is the respiratory protection standard that the  
10 standard can be tailored more to meet the individual  
11 needs of the different work sectors as NIOSH  
12 identified it.

13           So with that, I would like to open the  
14 dialogue and take any questions that you may have with  
15 regard to the content of my presentation, as well as  
16 hear any of your viewpoints on things that you think  
17 we should consider with regard to the regulatory  
18 agenda.

19           One other thing, at least in terms -- and  
20 I'll put the questions slide back up. The information  
21 docket for collecting information is Number 221. I  
22 believe the docket is open until February 11th. I'll

1 have to double-check that. But it is on the website  
2 and -- at least with regard to accepting comments.

3 And so with that -- Jeff Birkner.

4 And again, just as a reminder to everybody.  
5 We need to use the microphone for the LiveMeeting  
6 participants. So if you could just introduce  
7 yourself, who you're with, and your topic.

8 MR. BIRKNER: Jeff Birkner, Moldex-Metric.

9 Jon, you address very briefly the QA and TIL  
10 modules. But you didn't give a sense of what the  
11 schedule is.

12 Do you guys know where you are and when you  
13 expect the regulations to be finalized or what the  
14 next steps are?

15 MR. SZALAJDA: Well, that's a good question.  
16 It's a difficult one for me to address as part of the  
17 rulemaking. I think the easiest thing for me to say  
18 is they are part of our regulatory agenda. There's  
19 activity going on with regard to all the things that  
20 were identified. And we've closed the comment period.  
21 And I think during the course of the upcoming year you  
22 will see some additional information coming out with

1 those three -- three modules.

2 MR. BIRKNER: Okay. Not the answer I wanted  
3 but --

4 MR. SZALAJDA: Well, I think it kind of goes  
5 back to the one slide to keep in mind that, you know,  
6 between the departmental review and then the OMB  
7 review, there's several things that need to be done.

8 You guys are being very shy; either that or  
9 I put you all to sleep.

10 Well, I'll tell you what, we'll go ahead.  
11 We'll enter the LiveMeeting, see if there are any  
12 comments from LiveMeeting.

13 Okay. Are there any comments from  
14 LiveMeeting?

15 MR. PERROTTE: No.

16 MR. SZALAJDA: Okay. Cynthia, did we get  
17 anything from LiveMeeting? I'm sorry, from social  
18 media?

19 MS. POWELL: Not yet.

20 MR. SZALAJDA: Not yet. Okay.

21 No takers. All right. Well, I think what  
22 we'll do is -- it's currently 9:36. What I would like



1 to do is maybe take about 15 minutes for a break. And  
2 we will -- with regard to the Combination Unit  
3 standard, the next topic in the meeting, it will allow  
4 us some time to get a few things set up.

5 And I think what I would like to do is maybe  
6 we will start at five of ten. And I will just give  
7 you the NIOSH remarks with regard to the Combination  
8 Respirator Unit. And then we'll try to structure that  
9 so -- we have three presentations for the Combination  
10 Unit Respirator -- Joe Rivera from the Air Force,  
11 Brian Montgomery from National Institute of Justice,  
12 and John Nelson from Avon.

13 And what I would like to do is we'll start  
14 with Joe, I believe, is the first presenter. And  
15 we'll try to start his presentation about 10:15 so it  
16 matches with the agenda time. And I will talk for 20  
17 minutes or so, starting about five of ten, at least  
18 with regard to some NIOSH's perspectives.

19 And so with that, we'll take a 15-minute  
20 break or so. Thank you.

21 (A short break was taken.)

22 MR. SZALAJDA: Okay. We are going to go

1 ahead and resume the program. If you guys will close  
2 the doors, and we're going to go ahead and start.

3 Terry, could you close the doors in the  
4 back?

5 And could I get somebody to grab that door  
6 on the side, please. Thank you.

7 I just wanted to give the earlier topic  
8 maybe a five-minute postmortem at least to stimulate  
9 some thought and, you know, give you some examples, I  
10 think, of where we would be looking for particular  
11 input.

12 I think when you look at the evolution of  
13 our regulatory agenda, one example I think of where we  
14 will be looking for feedback came out of  
15 closed-circuit escape Respirator module and where a  
16 manufacturer of those types of devices had made a  
17 recommendation that NIOSH look at establishing and  
18 updating the performance requirements for Open-Circuit  
19 Escape Respirators, whereas the rule that was being  
20 developed addressed closed-circuit technology.

21 And this particular organization submitted  
22 to the docket, and, you know, as part of their

1 comments that NIOSH look at the evolution and update  
2 the regulation for open-circuit technology. So that's  
3 one aspect or one example of, you know, the type of  
4 feedback that we're looking for.

5 I think another aspect I had touched on was,  
6 you know, with regard to the question regarding the  
7 potential for establishing different classes of  
8 respirators, you know, in particular like, for  
9 example, health care that -- will it be appropriate  
10 for NIOSH to develop performance requirements for a  
11 health care worker respirator?

12 You know, another example might be a class  
13 of respirator for industrial applications where you  
14 have multiple protections in your canister, you know,  
15 similar to what was done for CBRN, that we test for 10  
16 tests representative agents as part of the standards  
17 process. Can we do something similar, and would that  
18 be appropriate for use in the industrial work place?

19 One other thing to keep in mind would be  
20 whether or not is there anything in our regulations  
21 where the regulations in the way of particular  
22 innovation with regard to how products are brought to

1 market in niches, that particular devices may serve to  
2 protect workers, but yet doesn't fit the categories of  
3 respiratory protection.

4 I can give you at least one example. If you  
5 look at the -- some of you may have seen a particular  
6 product that looks like a baseball cap that has a  
7 little blower on it. How would NIOSH evaluate that?  
8 Is that worthy of its own class of respirator, or is  
9 that, you know, something that we can try to adapt and  
10 test during the requirements that are identified in  
11 the current regulation?

12 And then the last example, at least in terms  
13 of modifying the regulation with regard to classes of  
14 respirators, and it's my introduction into the next  
15 topic, is the Combination Unit.

16 You know, when you look at this particular  
17 type of respirator, should NIOSH take and develop  
18 standards associated with the use of different types  
19 of products, the Combination Unit being one of them.

20 So anyway, I wanted to give those ideas as  
21 food for thought and at least to help you with your  
22 individual and collective thought process with regard

1 to how we can pursue update of our regulatory agenda.

2 One of the things that I did want to note,  
3 you know, that we will plan on conducting a public  
4 meeting sometime mid year in 2011 to discuss other  
5 respiratory protective topics. And what I will like  
6 to do following any feedback that we get to the docket  
7 is to give you an update at that forum with regard to  
8 taking our three-year program and how we extend it out  
9 to the five-year program.

10 And so with that, we'll go ahead and we'll  
11 move into the Combination Unit part of the discussion.

12 My project officer on this, Frank Palya, had  
13 a family emergency and was unable to participate  
14 today, so I'm going to be covering his slides in his  
15 absence.

16 And at least with regard to how we're going  
17 to proceed through this part of the meeting, I have a  
18 brief overview and then we have three requested  
19 presentations.

20 And the requested presentations are focused  
21 on identifying operational issues associated with this  
22 type of respirator. And part of what we want to do is

1 to foster a discussion with how we identify the  
2 standard performance requirements to capture these  
3 operational characteristics.

4           At the end of the presentations, we'll have  
5 a panel discussion. The presenters will be joined by  
6 Bill Haskell from the Policy and Standards Development  
7 Branch. And what we'll do is -- will be slides that  
8 solicit several questions where we're looking for  
9 feedback. And I'll ask the panel for an opportunity  
10 to make comment on each of those slides and then  
11 solicit feedback from meeting participants here, and  
12 then the LiveMeeting, and then the social media with  
13 regard to those particular questions.

14           And at least, as far as the overview for the  
15 presentation, the Combination Unit is really -- this  
16 standard is the combination of our CBRN activities.  
17 We've completed standards for Open-Circuit  
18 Self-Contained Breathing Apparatus, Air Purifying  
19 Respirators, Powered Air Purifying Respirators, and  
20 Escape Respirators.

21           You'll see CBRN standards evolve in the  
22 classes that I discussed in the previous presentation.

1 There will be optional CBRN performance requirements  
2 that you could have that as an added protection for  
3 your Closed-Circuit SCBA. Those also will be included  
4 with the Supplied Air Respirator Standard, also the  
5 CBRN criteria will transition with the PAPR.

6 So when the new PAPR module comes out, the  
7 criteria that was developed for CBRN will go along and  
8 be an optional protection that you can get for the  
9 PAPR.

10 So at the end of the day, if you have the  
11 CBRN PAPR now, will it be a CBRN PAPR in the future?  
12 Yes. That's fine. The regulation will change and  
13 evolve the requirements. The CBRN parts of those  
14 requirements will stay the same.

15 But then the last category for CBRN that  
16 we're working is related to the Combination Respirator  
17 Unit, and we like to come up with acronyms. So right  
18 now we're using CRU. If you have a better idea for  
19 what we can call this thing, we'd appreciate hearing  
20 that as well.

21 But there are several issues associated with  
22 how we define the requirements. So that I think the

1 nice thing that rulemaking affords us with this is  
2 that I'm considering this to be a blank slate, you  
3 know, that we're going to use Part 84 and any other  
4 national or international standard that's appropriate  
5 to identify the performance requirements for the  
6 protections that need to be addressed with this type  
7 of respirator.

8           And the key reason for having these  
9 gentlemen to my left is that they're going to give us  
10 a perspective on what the user thinks is needed for  
11 this type of device. And I think that's critical, you  
12 know, to us to make sure that we translate those  
13 operational characteristics into the performance  
14 requirements that we test for in our certification  
15 program.

16           So with that, what's the definition of the  
17 CRU? And if you look at the concept paper that Frank  
18 had developed -- and that's available through the  
19 Internet -- that it's a multi-functional unit that  
20 deploys at least two or more different types of  
21 respiratory protective devices.

22           So I think in general when you think of



1 these things, you think, well, it either purifies the  
2 air or you get supplied air. But that's not to say  
3 that you could have combinations of other things. You  
4 could have a closed-circuit technology combined with  
5 an air purifying capability. You may be looking at  
6 systems that might be dockable that you can get feed  
7 air from a supplied air line while you're doing your  
8 mission. There may be things that we haven't thought  
9 of. And that can be addressed as well. Because we  
10 are going through rulemaking to identify these  
11 requirements.

12           The little catch-all that's currently in the  
13 regulation that we fall back on is this paragraph  
14 that's right out of Part 84, which basically says if  
15 you bring in a combination, what we define in Part 84  
16 as a combination unit respirator, it's classified by  
17 us as the least protective part of what you're  
18 seeking.

19           So, for example, if you're looking at a  
20 Combination Air Purifying Respirator, Open-Circuit  
21 SCBA, we're going to classify it as a gas mask. Now,  
22 that's not to say that, you know, there are

1 combination units that are currently out there. And  
2 Joe Rivera will be telling you shortly about some of  
3 the experiences that they've had, you know, with  
4 regard to a type of respirator that the Air Force is  
5 using where it's approved as a SCBA, as a PAPR, as an  
6 APR. Three separate approvals, not one.

7           So the thought in moving forward is, what's  
8 the best way of how we define these type of systems?  
9 And I think one of the questions we'd like you to  
10 think about and get feedback on is how we define the  
11 combination unit respirator. From the standard if we  
12 define the respirator as subparts of other standards,  
13 you know, including in Part 84 and follow that same  
14 methodology that we had described in terms of it gets  
15 three separate approvals, or is our user community  
16 going to be better served that we classify this as one  
17 type of respirator, identify what the hurdles are that  
18 we need to overcome with existing standards and  
19 regulatory language that's in place, and then what we  
20 need to do in terms of identifying performance  
21 requirements for those features of the respirators  
22 that provide the protection that's necessary for the

1 responder that's using these types of devices?

2           And so with that, what I'd like to do while  
3 we -- the docket for this -- well before moving to the  
4 next presentation, the docket for this is 82A. And I  
5 had mentioned this morning the fact that we do have  
6 these information dockets.

7           Three or four years ago, we conducted a  
8 public meeting. We had an initial discussion about  
9 Combination Unit Respirators. That was set up as  
10 Docket 82. And now as we go through and have  
11 continuing discussions on this topic, we're going to  
12 add to that information docket. So the results -- the  
13 things that we discuss here today, as well as any  
14 products that you choose to provide to us through the  
15 docket, will become part of Docket 82A. And this will  
16 be our repository of information as we go forward and  
17 develop the requirements for the standard.

18           So keep that in mind. The comment period  
19 for this also closes in February. As I had mentioned  
20 earlier, we will be putting the presentations that  
21 you're going to be hearing up in the docket as well as  
22 the transcript. And hopefully, you know, you'll be

1 inspired by what you hear today to at least share with  
2 us, if not today but in the future, what you think  
3 should be appropriate and the things that you think  
4 would be appropriate for the standard.

5 And so with that, I'd like to introduce  
6 Master Sergeant Joe Rivera who's here with us from --  
7 I hope it's Master Sergeant, correct?

8 MR. RIVERA: Chief Master Sergeant.

9 MR. SZALAJDA: Chief Master Sergeant. I'm  
10 sorry.

11 MR. RIVERA: I hope to be there.

12 MR. SZALAJDA: I like to call him Joe. But  
13 we've had a relationship with Joe over the past  
14 several years as a result of activities that we've  
15 undertaken in the laboratory for addressing the Air  
16 Force's use of one of these types of respirators. And  
17 I thought it was appropriate for him to come and share  
18 some of his experiences that he's had in  
19 considerations that went into the selection of the  
20 performance requirements for this type of respirator.

21 What I'd like to do is let Joe have his  
22 talk, and maybe we'll take a few questions, if you

1 have them, for his dialogue. But I'd like to save  
2 most of the give and take type of discussion for the  
3 panel, if we could do that. So with that, Joe.

4 MR. RIVERA: Good morning, ladies and  
5 gentlemen. I'm Chief Joe Rivera with the Air Force  
6 Fire Emergency Services. And for the next few  
7 minutes, I'd like to provide you with a brief  
8 description of the history of our Combination  
9 Respirator and describe how we currently survive and  
10 operate in atmospheres that are chemically and  
11 biologically contaminated.

12 And you've already advanced here. Back in  
13 the late 70s we're dealing with the Soviet threat and  
14 the probable use of chemical weapons if we got into a  
15 shooting war. So in the fire business, we use a  
16 standard chemical ground ensemble that other members  
17 use, which is basically dermal protection and an Air  
18 Purifying Respirator, or an APR. So we are limited to  
19 surround and drown type firefighting.

20 AUDIENCE VOICE: Joe, move the microphone  
21 back a little bit.

22 MR. RIVERA: Can you hear that better?

1 AUDIENCE VOICE: Yeah.

2 MR. RIVERA: So we were limited to surround  
3 and drown firefighting. We weren't able to accomplish  
4 our primary missions of interior firefighting and  
5 rescue in IDLH type environments.

6 So we began looking to procure an ensemble  
7 that would allow us to survive and be able to operate  
8 in those immediately dangerous to life and health, or  
9 IDLH environments.

10 So after about a two decade effort, we came  
11 up with a Joint Firefighter Integrated Response  
12 Ensemble, or the JFIRE. It consists of three major  
13 components. That's the Joint Service Lightweight  
14 Integrated Light -- Lightweight Suit Technology, or  
15 JSLIST, Proximity Firefighting Gear, and a  
16 Self-Contained Breathing Apparatus.

17 And what this allowed us to do for the first  
18 time was be able to do our primary missions of being  
19 able to do that interior firefighting and rescue in  
20 IDLH environments in contaminated environments.

21 MR. PERROTTE: Joe, could you move closer  
22 to the mike? They're having trouble on LiveMeeting

1 hearing you.

2 MR. RIVERA: So how do we operate?

3 Let's take the Korean Peninsula, for  
4 example. We receive intel that the North Korean Army  
5 is massing forces and may attack. Additionally, we  
6 believe that they've loaded warheads or artillery  
7 shells. So we're at a heightened state of readiness.  
8 We increase our protective posture. We don JSLIST and  
9 have all other personal protective equipment  
10 available.

11 The North crosses the 38th Parallel. So now  
12 it's a hot war. We're now in a survival mode. Attack  
13 is imminent and chemical weapons will be used. We don  
14 APR and other PPE and we take cover.

15 So we survive the attack. Now, it's time  
16 for us to do our primary mission and generate sorties.  
17 We have a cargo aircraft with an emergency fire and  
18 incapacitated aircrew. We respond, knock down the  
19 exterior fire with turrets. In order to make entry  
20 into the IDLH atmosphere, firefighters don their  
21 bunker gear, SCBA, and transition to supply the  
22 breathing air. So we make rescue. We exit the

1 aircraft. And we're still in that contaminated  
2 environment. So we transition back to APR and we take  
3 off the SCBA and bunker gear.

4 Now, when we initially fielded the  
5 Interspiro SCBA with APR capability, it met NFPA and  
6 NIOSH standards for the SCBA, but not when we  
7 converted it to a combination respirator. And the  
8 reason for this is there's no test standard to certify  
9 the two combination respirators.

10 Now, as an aside, when I first arrived at  
11 AFCESA back in the late 90s, a lot of departments  
12 found out that we had this system, including Chicago,  
13 New York, and they contacted us and they wanted to  
14 have this for their special operations type business.  
15 But we were unable -- you know, we said, hey, we can't  
16 help you. The thing is not NIOSH compliant. And that  
17 was true for us also. We were not able to use the  
18 thing for a day-to-day business, other than to train  
19 for our wartime missions.

20 Now, our new SCBA that we began fielding in  
21 2007 is the MSA M7 FireHawk Responder. It can be used  
22 in APR, PAPR, or SCBA mode. You can transition



1 between these modes without exposing the user to  
2 contamination environments.

3 And this SCBA, as opposed to the Interspiro  
4 SCBA, is NIOSH and NFPA complaint. But it's only  
5 compliant if used as an APR, PAPR, or an SCBA, not if  
6 transitioned between the different modes.

7 So how does this ability to transition  
8 between the different respirator modes help us? Here  
9 are some potential scenarios where we need to be able  
10 to put the system to use.

11 Unfortunately, the warzone is now here in  
12 the USA. The potential for use of TICs and TIMs or CB  
13 to attack here in the homeland is very real and it has  
14 happened.

15 So basically, we need this capability to  
16 operate for extended periods of time beyond what we  
17 would have in a given air cylinder, what the capacity  
18 of that air cylinder would be. This is for hazardous  
19 materials, weapons of mass destruction, structural  
20 collapse investigations are just a few of the  
21 operations where we could use the combination  
22 respirator.

1           So today imagine the bad guys hijack a crop  
2 duster and they attack an Air Force Installation  
3 neighborhood with chemical weapons. Our HAZMAT  
4 capability is going to be pretty overwhelmed at this  
5 point. However, as I see, if I know that I've got a  
6 JFIRE type capability where I can outfit numerous  
7 rescuers, I'm going to have a broader capability.

8           And with the standard breathing apparatus,  
9 if I'm operating in a given area and going door to  
10 door, breathing that SCBA air is just not going to be  
11 practical. However, if I can go door to door,  
12 accomplish that search in my area and should the need  
13 for IDLH -- you know, transition to an IDLH  
14 environment occur, then I can transition to the SCBA  
15 and do that type of operation.

16           Another example is last week where the  
17 technical support working group that you heard of and  
18 the Intel community was describing some of the  
19 investigations on WMD response that they do worldwide.  
20 They were doing an investigation to Tbilisi in a  
21 facility. In this facility they had tons of the  
22 methyl ethyl bad stuff in there. And these guys were

1 outfitted in Level B APR type respiration. And the  
2 people doing the investigation noticed that they had a  
3 situation that was getting bad. And being experienced  
4 as they were, they held their breath and they backed  
5 out of the facility.

6 Now, that's fine. But I'd much rather have  
7 that opportunity to be able to transition to that  
8 self-contained breathing apparatus to make an escape  
9 from an environment like that.

10 So these are a couple of examples where we  
11 can use this capability. Others include tunnel  
12 rescue, coming in or going out of hot zone, incidents  
13 where we just don't want to be using that SCBA air,  
14 because it just doesn't give us the time we need.

15 These are a couple of the systems or  
16 situations where we can put this thing to work. And I  
17 know that the Special Ops folks and the hazardous  
18 materials view retypes, can come up with many other  
19 applications that we haven't thought of.

20 So the bottom line for us is these systems  
21 are commercially available; MSA Interspiro, Avon.  
22 They have these on the market. But we're not able to

1 fully use the capability. We need to figure out how  
2 to certify the systems, the techniques, and tactics  
3 that we're going to employ so that the firefighters  
4 are safe and that we give them expanded capabilities  
5 to accomplish their missions.

6 So that's kind of how we use the MSA  
7 breathing apparatus, a little bit of the background.

8 Go on down here. I think the next slide may  
9 have just been a question slide.

10 MR. PERROTTE: No. That's the last slide on  
11 there.

12 MR. RIVERA: That's the last one on there.  
13 Okay.

14 So that's how we put the system into use and  
15 just a little bit of the background on the Air Force's  
16 experience with the combination respirator.

17 MR. SZALAJDA: Any questions for the chief?

18 MR. SELL: Hi, Chief. Bob Sell, Draeger  
19 Safety.

20 One question. During out -- throughout your  
21 presentation, one thing you --

22 (Interruption by the conference recording.)

1 MR. SELL: I can talk now, okay.

2 You never mentioned about monitoring of the  
3 atmosphere.

4 MR. RIVERA: Correct.

5 MR. SELL: This is something that is being  
6 done, or do you rely on the person how to make the  
7 switch over transitions as they determine?

8 MR. RIVERA: Well, we do monitor the  
9 atmosphere. The way that we use the system currently,  
10 we don't use it on a day-to-day basis worldwide  
11 anywhere. It's strictly a military unique type of use  
12 that we have with the NIOSH standards that allow us to  
13 do that.

14 So the situation that I described in Korea,  
15 we're going to be out in disbursed types of locations.  
16 And we do have monitoring going on on base, and that's  
17 our readiness type of personnel that do that thing.

18 So they're going to say -- and they have the  
19 installation divided up into sectors. So Sector 3 has  
20 a nerve agent present. So we would at that point know  
21 that we're in a contaminated environment. Should we  
22 have to -- and we even just have that assumption for

1 that entire sector.

2 So if we respond to a given incident,  
3 whether it's a mission critical facility or it happen  
4 to be somewhere on the airfield, then it was an  
5 aircraft, then we would just have the assumption that  
6 anywhere in that area is contaminated.

7 MR. SELL: As a second half to that, would  
8 you consider the incorporation of other technology  
9 sensors, electronic monitoring in the atmosphere to  
10 allow the unit to make the decision to transition, or  
11 do you want that to be a responsibility of your  
12 monitoring team or operations or whatever?

13 MR. RIVERA: To be able to transition this  
14 from that military entire installation type of attack  
15 environment and be able to employ this system in city  
16 departments or in our departments that mainly operate  
17 in bases in the states or around the world, wherever  
18 they may exist, we'll have to have that individual  
19 monitoring capability. And so these are going to be  
20 some of the details we have to work out.

21 So, for example, if I've got a tunnel type  
22 risk like we had in France a few years back, the big

1 fires, if I know -- if I've got to go from the cold to  
2 the warm to the hot, if I can get through the warm  
3 zone and if it takes me 12 minutes to reverse that  
4 distance, and I'm going to have something that tells  
5 me, hey, you're in the warm zone; you're okay with a  
6 particular filter or whatever it may be. However, now  
7 you know, I've got to go IDLH. Because you know, I  
8 can't necessarily see something. I mean, it may be  
9 obvious and I can't see it if it's a fire type  
10 scenario or that type of thing. Otherwise, we're  
11 going to have to have that very thing.

12 MR. SELL: Thank you.

13 MR. SZALAJDA: Any other questions from the  
14 participants here in Pittsburgh?

15 LiveMeeting, John.

16 MR. PERROTTE: It's already in mute.

17 MR. SZALAJDA: Okay. Any questions from the  
18 LiveMeeting for Chief Rivera?

19 Okay. Cynthia, do we have anything from  
20 social media?

21 MS. POWELL: No.

22 MR. SZALAJDA: No. Okay.

1 All right. Thank you, Chief.

2 And next, I'd like to introduce Brian  
3 Montgomery with the National Institute of Justice.

4 MR. MONTGOMERY: Okay. Thank you, Jon.

5 I'm Brian Montgomery, National Institute of  
6 Justice. I'm a physical scientist there as the  
7 Officer Safety and Protective Technologies Program  
8 Manager. I also manage the Explosives Programs at  
9 NIJ.

10 And today I just want to do a quick overview  
11 of who we are, just so you know where I'm coming from,  
12 and I'm going to show you a little video, and then I'm  
13 going to go into some of the requirements that we've  
14 gathered from the law enforcement community

15 So first of all, just really quickly, who we  
16 are. We are the research development evaluation arm  
17 of the Department of Justice. We get our  
18 authorization from the Omnibus Crime Act -- Control  
19 Act of 1968, as well as the Homeland Security Act of  
20 2002.

21 Our goal is to enhance the criminal justice  
22 system. So we look at law enforcement, corrections,



1 courts, various pieces of the criminal justice system  
2 and try to improve those systems, and to increase  
3 public safety. We go through the scientific process,  
4 open competition, peer review, as well as publishing  
5 reports and archiving data for future use.

6 I'm part of the Operations Technology  
7 Division. That's one of the seven divisions within  
8 the NIJ. What we do is we manage research development  
9 efforts in various technology areas. There's about  
10 six of those, including both of my programs. We  
11 identify technology requirements. We do manage  
12 developmental standards, test methods and guides for  
13 law enforcement and criminal justice communities. We  
14 administer and manage equate efforts within the  
15 National Law Enforcement and Corrections Technology  
16 Center. This is one of our outreach components as  
17 well as our centers of excellence that do test  
18 evaluation for us. And we provide technology,  
19 information, and assistance to the field.

20 So what I want to bring up here is a quick  
21 video. This was given to me by DHS, if I can get this  
22 tape out.

1 MR. PERROTTE: Just hit escape.

2 MR. MONTGOMERY: I have it. It's not  
3 willing to pop out.

4 As it begins to come up, I want to kind of  
5 set this up for you a little bit.

6 DHS did an assessment of some various  
7 equipment in a WMD type scenario, which you'll see  
8 you're inside of a room. You'll see three bad  
9 actors -- well, they're actors, but they're bad guys.

10 The team that come in has some knowledge of  
11 what's in the room. They do see or know that there  
12 are PP ensembles, as well as SCBA equipment. I'm not  
13 sure of their knowledge as to whether the bad guys  
14 inside the room are wearing that equipment or not.

15 You will hear with -- hopefully, you'll hear  
16 within the video some of the issues that we're going  
17 to have with the respirators systems and you'll also  
18 see that the suspects here react to what they hear.

19 They start out on a ground floor. Again,  
20 this is a third floor of the facility. They start on  
21 the ground floor. They come up the stairs and  
22 basically make entry without too much of a hesitation.

1           So you'll see how much time they've had to  
2 react.

3           (Whereupon, a video was shown.)

4           MR. MONTGOMERY: So you can see some of the  
5 PP ensembles and stuff found around the room.

6           (End of video.)

7           MR. MONTGOMERY: Okay. Is there something  
8 that concerns with what you saw on that video?

9           If you heard about two-thirds of the way  
10 through, once they made entry, there's a female voice  
11 you heard go, bang, bang, bang. That was the third  
12 person who kept calling, "I hear someone on air," took  
13 a position next to the door.

14           The first two through the door did not look  
15 that direction; the third one did. She probably took  
16 out the first two officers that came through the door.

17           So you saw how much time between when she  
18 start calling, "I hear someone on air" and they  
19 actually made entry into the room.

20           So I want to go through some of the  
21 requirements I've gathered from various people within  
22 the community. I've broken these down into some

1 subcategories; Mission Utility, Operational  
2 environmental, Interoperability, Environmental  
3 concerns, Heads-up Display, and I also want to talk  
4 about Filtering a little bit.

5           These do -- most of these do directly relate  
6 to the topic at hand, but also relates to other  
7 systems as well.

8           First of all, Mission Utility; Mode  
9 switching. That's basically what we're talking about  
10 here today.

11           What's come from the field is that they  
12 would like to be able to have stood outside that door  
13 in a quieter mode, set up, and not had that noise  
14 coming through the doorway.

15           If they know that there's not that imminent  
16 threat, IDLH threat right there at the door. Now, if  
17 they had knowledge that the people inside the room are  
18 not wearing their PPE, they pretty much know they're  
19 probably safe. Because they would be in trouble, the  
20 people inside the room would be in trouble.

21           But as you saw as when they came through the  
22 room, they hid a second room beyond. They don't know

1 what's behind that door. So they need to have the  
2 protection available to them to possibly switch over  
3 to that higher protection and get through that door  
4 and take care of what's behind that door.

5 Currently, if they needed to do that, they'd  
6 have to switch out systems somewhere in midstream, and  
7 that's just not possible.

8 One of the questions brought up about manual  
9 versus automatic. There are pros and cons to both of  
10 these. Some of the concerns from the law enforcement  
11 community is a system failure concern with the  
12 automatic, whether it be sensor failures, switching  
13 failures, or somehow it automatically switches to your  
14 air, which you're out of there, without having that  
15 knowledge.

16 For manual switching, there is training and  
17 user failure concerns. Does everybody get trained  
18 properly to know when and how to make that change, as  
19 well as going back to what was brought up a few  
20 moments ago about how does he know when to make that  
21 change?

22 This will increase operational duration. If

1 they don't have to turn that air on until they  
2 actually need it, they can spend a lot more time doing  
3 their mission.

4           Within the law enforcement community, it's  
5 very difficult to come into a tactical situation and  
6 have to pull back out every half hour to 45 minutes to  
7 switch out air, because they may need to stay  
8 somewhere for an extended period of time.

9           Also, you need to look at improved stealth,  
10 noise reduction. Obviously, from the video you saw  
11 that was a good 30 seconds or more that they had time  
12 to prep for them to come through the door.

13           One mask or system for every mission. This  
14 way they're not carrying three or four different  
15 systems with them. They can switch back and forth  
16 between whatever they have to meet the mission they're  
17 going after.

18           Also, be able to change dynamically, just as  
19 I've already mentioned. As they go from one situation  
20 to another, be able to have the protection they need  
21 against that task, against that risk.

22           A couple of more direct pieces on the noise

1 considerations. Reduce noise over the entire system,  
2 That's typically for the PAPR and SCBAs.  
3 Inhalation/exhalation valve noise reduction, is where  
4 a lot of that comes from.

5 Also alarms. To have an audible alarm for a  
6 tactical officer is really not acceptable for their  
7 mission. For them to go in and just be ready to enter  
8 a door and then hear an alarm go off, that's going to  
9 tip off the adversaries.

10 One of the other major concerns that they  
11 have is weapon sighting, being able to get that  
12 good -- when they do long rifles or rifle sighting,  
13 they need to have what they call a cheek weld -- a  
14 good cheek weld fit so that -- the bud of the weapon  
15 has to be up against the cheek to be able to get a  
16 good sight picture down the site. With bulky masks  
17 it's just not compatible. And the filter must be a  
18 side mount just for that reason alone. A front mount  
19 will cause issues with that sighting.

20 When we look at optics, the Visual Field  
21 Score may need some research on what that really needs  
22 to be for the law enforcement community. They need to

1 have more accurate visibility coming out of the mask  
2 because of the threat they're facing with the act of  
3 shooters and other issues.

4 Fragmentation protection. Again, they don't  
5 know what they're coming into. There could be  
6 possible IEDs in the areas and other issues with  
7 fragmentation. And they must be able to accept  
8 optical modifications as with most mask now.

9 Speech is another concern. And when they  
10 get into the multi modes where to place that speech,  
11 how to handle that speech.

12 Currently, from what I understand, a lot of  
13 the speech capabilities are straightforward speech.  
14 Those that fit the law enforcement community? Maybe,  
15 maybe not. There might be some consideration of some  
16 low volume speech available at 360. So that when  
17 officers looking down range or at the adversary or in  
18 the area of the adversary, he doesn't have to turn his  
19 head to speak to his companions.

20 One of the -- a concern that has come up on  
21 some of the research development side of this, as well  
22 as from the officer side is flame resistance. The



1 full system needs to meet three requirements,  
2 including the harness, which is one of the concerns  
3 that has come up over this because of the need to make  
4 that a more robust material.

5 Flash over is absolutely needed. This is  
6 more of the meth lab scenario. Go to the meth lab.  
7 Chemicals go off. You got a flash fire. They need to  
8 be protected from that.

9 Is a bake test needed? The officers don't  
10 typically go into a fire and stay in the fire. They  
11 go in and go out. The flash over is more their  
12 concern with that.

13 Hydration free systems. Depending on how  
14 these combination units work, the hydration may be an  
15 issue. And it's a must for the officers. Again, they  
16 may stage for hours at a time before going into a  
17 situation. So without having a hydration capability,  
18 it's going to make it very difficult for them to  
19 perform their mission.

20 Flow rates. That was just briefly discussed  
21 a little bit at the meeting I had with my officers.  
22 And they're wondering if maybe there needs to be some

1 research for law enforcement specific flow rates.

2 Maybe, maybe not.

3 Interoperability with communications. And  
4 this fits basically all systems, as well as the  
5 combination units; radios, hearing protection and  
6 various other communication devices. If they can't  
7 communicate with each other, the mission is going to  
8 be very difficult.

9 Helmets; proper fitting. I have a picture.  
10 I usually show this slide, and I didn't insert it  
11 here; but it shows an officer wearing his PPE gear.  
12 He's got his system on. He's got a helmet that he  
13 can't fasten the chin strap because it doesn't fit  
14 properly. He's got a bunch of equipment hanging off  
15 everywhere. It doesn't even look like he would be  
16 able to walk around very long, much less perform his  
17 operations.

18 So that comes to developing or looking at  
19 these systems or even standards for these systems.  
20 Need to have a look at operations and how this  
21 equipment fits together with it.

22 And again, body armor, as well -- working

1 with these symptoms. Various tools that are used by  
2 the law enforcement community. They're very similar  
3 to the fire community using their tools.

4           Everybody talked about the weaponry and  
5 hearing.

6           Range of motion. Once you start getting all  
7 this equipment on them with all the possible hoses,  
8 filters, and various pieces, it makes it difficult to  
9 get around in these systems.

10           Heads-up displays. That's been a kind of a  
11 push from the community as to have ways of visually  
12 seeing their statuses without having to look around  
13 for different sensors on cables or lighting on cables  
14 or various pieces.

15           Because of the way the filtering of things  
16 work, the APRs, they don't see it is necessary for an  
17 APR system yet. And that's when they start getting  
18 sensor that can determine breakthroughs and usage of  
19 filters. But currently for SCBAs and PAPRs, you know,  
20 battery life, air time, those types of things.

21           If you do look at having a heads-up display,  
22 it cannot be visible outside of that officer. So you

1 got to really reduce the amount of reflection or any  
2 of the ways that someone can see that officer from a  
3 distance because then that gives them a perfect target  
4 point as to basically aim at that light.

5           Field of vision consideration for the hoods.  
6 Basically just as I mentioned earlier, it's got to  
7 stay out of the way of what they need to do  
8 operationally, but it needs to be visible when they  
9 need it.

10           And also power replacement easily  
11 obtainable, easily replaced as with most other  
12 systems.

13           Environmental considerations for any of  
14 these systems. Heat. When it comes to law  
15 enforcement usage, they don't typically have it stored  
16 back at the station or back at their home base. It's  
17 usually stored within their vehicles or within a  
18 vehicle that may be out on the roads quite often or  
19 parked outside.

20           So we have issues with these being stored in  
21 trunks of cars, back seats of cars, and those type  
22 things, as well as cold, freezing for the same

1 reasons.

2 Salt water and sand. We have those  
3 operations -- I'm sure the same operations in the fire  
4 community possibly.

5 Altitude. And that could be ways of  
6 adjusting breathing resistance and for looking to  
7 combine respirators. That could be an interesting  
8 hurdle to overtake. It already is with -- just as it  
9 is, much less taking altitude into account.

10 Static discharge. And that could be  
11 dependent upon how the switching is done. If it's  
12 done automatically, there may be some electronics  
13 involved, it may issue a static discharge.

14 Again, this goes back to one of the meth lab  
15 requirements, that if they go into a meth lab, some  
16 sort of static goes off, they can set off the  
17 chemicals. So we want to try to keep that to a  
18 minimum.

19 The last, but not least, a little touch on  
20 filtering. And again, I know this isn't quite  
21 specific to this discussion. But something needs to  
22 be looked at if we do look at a standard in this

1 direction.

2           Currently, that the filter is protruding  
3 from the mask. There have been some issues with  
4 accessibility to the suspect. So the suspect can grab  
5 ahold and rip it off your face.

6           Inoperability for other equipment. Field of  
7 vision. And again, platform stability. So if you  
8 have too much weight out there on the end of that  
9 mask, it could pull the seal and cause a break in the  
10 seal.

11           That's what I have for now, and then we'll  
12 have a little more discussion here in a few minutes as  
13 a panel discussion. And I know it's a little bit  
14 outside of the scope here, but I wanted to kind of  
15 give a good overview of some of the requirements and  
16 needs from the field.

17           This is my contact information. Feel free  
18 to contact me at any point for anything in the officer  
19 safety realm. And I guess we'll open it to a few  
20 questions if there are any.

21           MR. SZALAJDA: Go ahead, Bob.

22           MR. SELL: Oh. Bob Sell, Draeger Safety.

1 I am also a member of the NFPA Respiratory  
2 Protection Committee. There were several members of  
3 the committee here, including the Technical  
4 Correlating Committee Chairman.

5 This topic concerning other applications for  
6 self-contained breathing apparatus has been brought up  
7 in some recent meetings. And the NFPA, I believe,  
8 Bruce Teele, correct me if I'm wrong, has tried to  
9 solicit other individuals from other agencies,  
10 particularly law enforcement, to become members of the  
11 committee.

12 I mean -- maybe you -- or you can get out  
13 the word to others that, you know, they can be  
14 considered if you want to start looking at some of the  
15 modifications or enhancements that you've talked about  
16 here.

17 MR. MONTGOMERY: Absolutely. If you could  
18 send me some of the information that I can get out to  
19 the field to contact whoever you'd like to have  
20 context about possibly getting on those committees,  
21 that would be great.

22 MR. SZALAJDA: Any other questions from the

1 participants here in Pittsburgh for Brian?

2 Okay. John, do we have a LiveMeeting?

3 MR. PERROTTE: Yeah. I have them. It will  
4 take a second, Jon

5 MR. SZALAJDA: Okay. Sure.

6 For our LiveMeeting participants, are there  
7 any questions for Brian Montgomery?

8 Okay. Next, social media.

9 MS. POWELL: No question.

10 MR. SZALAJDA: No questions. All right.  
11 Thank you very much, Brian.

12 And our next presenter is Jon Nelson, and  
13 he's with Avon Protection.

14 MR. NELSON: All right. Thank you, Jon.

15 Good morning. Thanks for allowing me to  
16 speak this morning.

17 My name is Jon Nelson. I'm with Avon  
18 Protection Systems, and my presentation this morning  
19 is going to cover the Combination Respirator Use --  
20 Unit and the Homeland Security market.

21 So the first slide is, what is a Combination  
22 Respirator Unit?



1           Jon spoke about that this morning in Frank's  
2 presentation. And it's a combination of multiple  
3 organic pieces that are, be it a PAPR, an APR, an  
4 SCBA, or a CCBA. And those can be combined one or  
5 more components to be utilized effectively in an  
6 environment or in multiple environments.

7           So the end user -- let this load -- current  
8 user groups out there right now, that are using  
9 combination breathing apparatus or Combination  
10 Respirator Units are the Department of Defense, the  
11 Air Force in their JFIRE program, USSOCOM -- USSOCOM  
12 is a huge proponent with the Combination Brudar  
13 (phonetic) Respirator Unit; Navy, EOD as well as  
14 local, state, and federal law enforcement, and the  
15 National Guard Civil Support Teams.

16           These end user groups out there in the  
17 market are predominantly Department of Defense  
18 oriented, although there have been large movements in  
19 the Homeland Security market for these customers to  
20 utilize these types of apparatus.

21           This provides them with the best overall  
22 source or solution to multiple issues that could arise

1 during an operation related to domestic terrorism,  
2 international terrorism, and even clandestine  
3 laboratories with the manufacturer of methamphetamines

4 So the history of the combination breathing  
5 on a respirator unit.

6 Around 2000, 2001 United States SOCOM,  
7 Special Operations Command wanted to find a way to  
8 integrate the C420 PAPR technology into an SCBA and  
9 have the ability to switch back and forth between both  
10 units. So you have an initiative started by the  
11 Department of Defense in 2001 with two different  
12 service components within USSOCOM; the Navy on one  
13 side, the Army on the other.

14 Two different apparatuses were -- or  
15 apparatus were developed out of these components. And  
16 those we'll discuss here shortly related to what both  
17 of those items are.

18 The specialty users required multiple modes  
19 of operations. The primary target was the invasion of  
20 Iraq in 2002, 2003.

21 The operators need to be able to use these  
22 units in environments for extended periods of time,

1 including for up to eight hours. The primary target  
2 was the caves in Afghanistan and the underground  
3 bunkers in Iraq.

4 As you know, a 60 minute cylinder on a  
5 self-contained breathing apparatus gives you possibly  
6 60 minutes. The average user is going to breathe that  
7 in approximately 30. Okay. Thirty minutes was not  
8 enough time to leave their line of demarcation or the  
9 point of departure, make entry into the target  
10 location, conduct their operation, and then come back  
11 safely. All right.

12 They needed an apparatus that would allow  
13 them to move from the cold zone into the hot zone,  
14 perform the operation and then extract back to the  
15 cold zone for decontamination.

16 The equipment that was developed during both  
17 of these programs included a respirator that was  
18 capable of operating in both positive and negative  
19 pressure. Okay. This was unique to the marketplace.

20 Prior to doing this, you had either an  
21 Air-Purifying Respirator or a Supplied Air Respirator.  
22 All right. And both of those needed to be combined in

1 order for this user group or these user groups to be  
2 able to use their pieces of equipment efficiently.

3           It also developed a multi-functional PAPR  
4 module or a PAPR unit. And then you also have a  
5 stripped down SCBA. The SCBA are Self-Contained  
6 Breathing Apparatus that were typically found out in  
7 the marketplace for fire oriented, so they had a  
8 number of different components that were not necessary  
9 for the military user.

10           So what they wanted to do was go stealth and  
11 strip it down as much as possible to allow them to  
12 utilize it without alerting those forces that were  
13 massing against them to know that they were on  
14 location.

15           So I spoke earlier about two types of  
16 systems that were developed by the individual service  
17 components. The first was a combination system. That  
18 combination system took the C420 PAPR technology and  
19 integrated it with an SCBA that allowed them to switch  
20 between positive and negative pressure through the use  
21 of the box.

22           The second system that was developed was a

1 hybrid system. All right. The hybrid system was a  
2 Combination Respirator Unit, although all components  
3 were integrated, integrated into one chassis. All  
4 right. And that program was known as the Scout. All  
5 right.

6 Both of them combined Air-Purifying  
7 Respirator, Powered Air-Purifying Respirator and  
8 Self-Contained Breathing Apparatus into one component  
9 or one unit. What the Combination Respirator Unit  
10 gave them was the ability to individually select  
11 components for use during various operations. So they  
12 could use the PAPR when necessary. They could use the  
13 SCBA separate of the PAPR when necessary. They could  
14 use the APR individually, or they could combine all  
15 three components to utilize in combination of each  
16 other.

17 Whereas, the hybrid system everything was  
18 integrated onto one chassis. It provided for the  
19 ability to do Self-Contained Breathing Apparatus,  
20 PAPR, and APR all on one chassis. But if you needed  
21 to use one individual component, you were stuck using  
22 that same apparatus only if you needed to use APR mode

1 or PAPR mode on that particular apparatus.

2 So why a Combination Unit?

3 The combination unit for the Homeland  
4 Security market and the Department of Defense offers  
5 the ability to change on the move and also provides  
6 operational flexibility. It allows for longer  
7 operational time in excess of 30 to 40 minutes, which  
8 is your typical SCBA use time, even though I have seen  
9 operators go 60, 70, sometimes 80 or 90 minutes on a  
10 60-minute cylinder. But those are very unique cases.

11 It tailored to meet specific threats. If  
12 you know you're going to see biological, you can  
13 tailor to work against those biological threats. If  
14 you know that you're have going to have an IDLH  
15 environment, whether it's low to where it's oxygen  
16 enriched or oxygen deficient, you can utilize that  
17 Self-Contained Breathing Apparatus for that particular  
18 environment. So it offers a lot of different options  
19 that are available aside from being stuck in one  
20 particular apparatus.

21 Product familiarity. Users were used to  
22 using Self-Contained Breathing Apparatus or an APR or

1 a P APR. It limited or minimized the training time to  
2 be able to utilize any of those apparatus. Currently,  
3 it's proven in operational technology.

4 The Combination Respirator Unit within the  
5 Department of Defense has been in service since 2002.  
6 All right. It's been operationally used in  
7 Afghanistan and Iraq and other parts of world. They  
8 are known safe devices as tested by the Department of  
9 Defense.

10 What that brings us to is the ability to  
11 correlate or transition that particular technology  
12 over to the non-Department of Defense market. All  
13 right. Because those technologies are proven. The  
14 operators know they're safe and it gives them the  
15 ability when they transition away from military life  
16 to be familiar with if those folks transition into law  
17 enforcement careers, transition into equipment they  
18 were familiar with from using in their prior career.

19 Certification challenges. All right.

20 Currently, as Joe stated and as Brian  
21 stated, there's no current published standard for a  
22 Combination Respirator Unit. All right. Typically,

1 the Department of Homeland Security and their  
2 authorized equipment has a line number for a  
3 Combination Respirator Unit or a combination breathing  
4 apparatus. But each component must be certified  
5 individual of each other, and there is no  
6 certification for the transition from one mode of  
7 operation to the other mode of operation.

8 So again, it creates a bit of a conundrum  
9 for the operator out in the field.

10 The end users, who are they?

11 You know, obviously we're focused here on  
12 multiple user groups, be it industry, Homeland  
13 Security, which is your local, state, and federal law  
14 enforcement agencies, the Department of Defense.

15 Who are your end users? What kind of  
16 standards are required for each one of those, because  
17 each one has a different need? Who may need it? You  
18 know, those are questions that we must ask ourselves.  
19 How should they use it? Do we define how it's used,  
20 what it's used for? Or do we allow that  
21 interpretation to come from the user base?

22 42 CFR. Obviously, we're here to discuss



1 that. NFPA, 1981, 2007 and soon to be 2013. Those  
2 are the fire standards for Self-Contained Breathing  
3 Apparatus.

4           You know, do we stay and utilize either of  
5 those, or do we combine them, or how do we work  
6 between those? You know, which user group demands or  
7 needs one specific set of rules over the next? Where  
8 do we go with that?

9           Procurement methods. Currently, the  
10 Department of Homeland Security has their grant  
11 programs. A lot of agencies, local and state agencies  
12 within the United States depend on grant funding to  
13 purchase their technology needs. And that includes  
14 PPE, or personal protective equipment.

15           The Combination Breathing Apparatus right  
16 now is at a standstill within the Department of  
17 Homeland Security, simply because there's no defined  
18 standard to prove these units to. And also because  
19 there's varying opinions within the FEMA grant  
20 directorate, not that that's a bad thing. All right.  
21 But the end users must stand up and say we want this;  
22 this is good technology, or this is bad.

1           And FEMA needs to understand that. And I'm  
2 not here to bash FEMA, because they do a phenomenal  
3 good job. But there are those things that are out  
4 there that a lot of folks who come from one side of,  
5 say, the fire service. And those standards on the  
6 fire service don't transition over to the law  
7 enforcement side. And the law enforcement standards  
8 sometimes don't apply to the fire standards. So there  
9 needs to be some common ground there.

10           Operational considerations. This has been  
11 discussed a couple times today, you know, when does a  
12 user need to change modes? Is there sensor technology  
13 integrated into this?

14           I'm a firm believer that it should be.  
15 Because the lowest common denominator could be that a  
16 patrolman who's never worn this equipment before,  
17 who's never trained in this. However, that's the  
18 worse case scenario. But the fact of the matter is if  
19 you don't have sensor technology built in, it's  
20 hand-carried, you know, the user is not going to know  
21 when to transition from negative pressure to positive  
22 pressure or vice versa.

1           User awareness in the environment. The  
2 heads-up display was discussed. Heads-up display is a  
3 phenomenal tool, you know. Can that heads display  
4 integrate that sensor technology into it?

5           Stealth operations. Again, 42 CFR, NFPA  
6 1981. 1981, 2007 Edition states that you must have  
7 independent and redundant alarm. In the law  
8 enforcement community, those independent and redundant  
9 alarms can be a risk, can be a safety risk for those  
10 operators.

11           So where do we stand? What do we do? How  
12 do we integrate those things? Switching again,  
13 switching from APR to PAPR to the SCBA and back to APR  
14 and PAPR.

15           Filters. You know, if you have a PAPR or an  
16 APR in conjunction with an SCBA, how do you know if  
17 your filter is contaminated? How do you protect that  
18 filter from contamination? What steps need to be  
19 taken to understand whether it's safe to transition  
20 back from SCBA to PAPR?

21           Again, more considerations. SCBA mode. It  
22 falls in line with the filter contamination. Do you

1 need to cover the end that's on the filters?

2           Is that safe? Can you effectively  
3 transition back to negative pressure if the filters  
4 are covered during an operational use when you're in  
5 an opposite mode?

6           No reversionary mode. You know, are you  
7 able to reverse? What is the standard going to state?  
8 Do you reverse or do you stay in the secondary or  
9 primary mode of operation?

10           Auto switching between modes. Me  
11 personally, I'm not a fan of anything automatic. I've  
12 got 14 years in the military; six as a team leader on  
13 a chemical recognizance detachment.

14           Auto switching in the military mindset for  
15 myself is one of those things that I like to have  
16 control of what I'm doing. And again, plus I've  
17 trained for it. If you've trained for it, you  
18 understand your sensor technology and your  
19 analytically equipment, you're able to understand best  
20 when to do those things.

21           So again, it's a training thing. But auto  
22 switching can be good. I'm not against it. It is a

1 habit. But again, you fall back to the theory of one  
2 is none; two is one.

3 All right. If you don't have the ability to  
4 switch manually if your automatic system goes down,  
5 the operator must leave the environment, and it could  
6 be detrimental to the operation overall.

7 So that concludes my presentation. I went  
8 through it a little quick. Is there any questions?

9 MR. CLOONAN: Can I ask a question?

10 MR. NELSON: Absolutely.

11 MR. CLOONAN: Hi. I'm Terry Cloonan. And  
12 it's a pleasure to listen to your presentation.

13 You reference the slide that address the  
14 combination --

15 (Interruption by the conference recording.)

16 MR. CLOONAN: -- the combination and the  
17 hybrid system description --

18 MR. NELSON: Yes, sir.

19 MR. CLOONAN: What's your perspective  
20 related to the facepiece and having an assigned or an  
21 unassigned facepiece used with the hybrid system  
22 configuration as you depicted it?

1           MR. NELSON: So the question is, what's my  
2 opinion of having an assigned or unassigned facepiece  
3 directly related to the combination unit?

4           MR. CLOONAN: No, sir. To the hybrid unit.

5           MR. NELSON: Oh, to the hybrid unit  
6 specifically.

7           MR. CLOONAN: The total control unit, yes,  
8 sir.

9           MR. NELSON: Well, do you want my personal  
10 answer, or do you want the business answer?

11           Because quite frankly, we manufacturer that  
12 facepiece. And as it stands right now, that facepiece  
13 allows -- it allows it to be issued to the individual  
14 operator for use in operations other than used  
15 specifically for hybrid apparatus.

16           So that user effectively gets an air  
17 purifying respirator or they can use a negative  
18 pressure mode. They can also couple that -- in the  
19 military environment, you can couple that with the  
20 C420 PAPR, okay, for use outside of the hybrid  
21 apparatus. They can then transition that mask over  
22 for use with the hybrid in both positive and negative

1 pressure modes.

2           So in the business case and the personal  
3 case, it allows the operator; one, to have one  
4 facepiece across the whole of the equipment that he is  
5 issued or she is issued. So that allows you to fit  
6 test on one piece of equipment when it's required.

7           And that's one thing that I did not include  
8 into my slides, and I probably should have is, you  
9 know, annual certification/recertification of that  
10 primary respirator. You know, that is an important  
11 requirement and it is standard. It must be done by  
12 regulation.

13           And when you have multiple facepieces, and,  
14 for example, I was with an agency a couple weeks ago.  
15 Their operators had five facepieces, five, okay, five  
16 facepieces for different types of scenarios, okay.

17           That is an extremely large amount of  
18 facepieces that the user has to spend time fit testing  
19 annually. And in my position, a single facepiece  
20 eliminates the need for all of those.

21           And personally from standpoint as an  
22 operator, the less time I have to spend making sure

1 that multiple pieces of equipment that I used to do  
2 similar jobs is good to go is better.

3 So to answer your question, a single  
4 facepiece would meet the needs. But again, you know,  
5 I'm a bit biased.

6 Does that answer your question?

7 MR. CLOONAN: Yes, sir. Thank you.

8 MR. SZALAJDA: Do we have any other  
9 questions from our participants here in Pittsburgh?  
10 Okay. How about our LiveMeeting audience?

11 MR. PERROTTE: No.

12 MR. SZALAJDA: Okay. Social medial?

13 MS. POWELL: Dan Rossos.

14 MR. SZALAJDA: Oh-oh, okay.

15 MR. ROSSOS: Jon, can you hear me?

16 This is Dan Rossos.

17 MR. SZALAJDA: Hi, Dan. How are you?

18 MR. ROSSOS: I'm very good. Thank you.

19 I just wanted to make a quick comment if I  
20 could.

21 As Bob so indicated earlier this morning,  
22 we -- my name is Dan Rossos. I'm with Portland Fire



1 and Rescue, and I'm the Chair of the Respiratory  
2 Protection Committees within the BA.

3 And we are entertaining right now a proposal  
4 to the standards council to basically split 1981 and  
5 make it, if you will, two documents. That would  
6 primarily identify Open-Circuit SCBA for the fire  
7 service and have another document or standard that  
8 would be more applicable and designed for emergency  
9 services, which, in fact, would eliminate some of the  
10 things that were brought up today regarding issues of  
11 stealth mode and reflective tape, and so on and so  
12 forth.

13 And so what my hope would be is really to  
14 throw out an invitation to everybody there today that  
15 would be interested in that emergency services end, to  
16 have an open invitation to attend our next meeting and  
17 any of our upcoming meetings so that we can really  
18 glean from you what those specific needs are to better  
19 help serve the emergency service industry that we're  
20 trying to reach out to right now.

21 So I can later on today or, perhaps, through  
22 somebody there that's representing 1981 give you the

1 information regarding contact to me personally, or how  
2 to get ahold of our liaison so that we can make  
3 arrangements for you to be at our next meeting.

4 MR. SZALAJDA: Great. Thank you very much,  
5 Dan. Good comment.

6 MR. ROSSOS: You're welcome.

7 MR. SZALAJDA: Any other comments from  
8 LiveMeeting?

9 Okay. Great. Well we're going to go ahead  
10 and we'll move -- thank you, Jon.

11 MR. NELSON: Thank you.

12 MR. SZALAJDA: I thought I was tall.

13 One of the features that we tried in  
14 previous public meetings, and it seemed to be well  
15 received, was the concept of having a panel discussion  
16 where we specifically are looking for information on  
17 the topic, and to allow people with interest to  
18 address questions, and as well as allow me to moderate  
19 a discussion between the audience as well as the  
20 experts in the field.

21 So with that -- because I'm not really sure  
22 when the box lunches are coming for purchase -- we're

1 going to move into this and take as much time as we  
2 need to get through the different topics that we'd  
3 like to cover. And then that will wrap up the  
4 combination unit part of the meeting.

5 At least as far as the rules for the  
6 discussion, what I will be doing is as the topics come  
7 up, I'll ask the panel for their opinions with regard  
8 to each of the topic areas on that particular slide.  
9 And the questions are oriented to facilitate the  
10 discussion, I hope.

11 And then after the panel has an opportunity  
12 to comment, I'd like to get your feedback and views on  
13 different areas. And please, you know, don't be shy.  
14 This is your opportunity to talk with the user  
15 community or people that have an understanding of what  
16 the user requirements may be and to allow that  
17 discussion to occur. And then we'll move and let the  
18 panel have their comments, the audience here have  
19 their comments, and then we'll look at the other media  
20 as well, as we go through the different slides.

21 And again, you all, this is being recorded.  
22 It will all be captured in the transcript that will be

1 in Docket 82A.

2 And so with that, the first discussion topic  
3 is related to how do we define the Combination  
4 Respirator Unit?

5 And I think in during the course of  
6 discussion, you've heard a couple of different facts.  
7 You know, one is how we do business now, you know, at  
8 least in terms of what's defined in Part 84 with  
9 regard to combination units in approving the  
10 respirator at the lowest category of protection.

11 But keep in mind, again, with rulemaking  
12 this is a blank slate, you know. The canvas is  
13 available for us to create and identify the  
14 requirements that are necessary for this particular  
15 class of respirator. And the CBRN CRU will be a class  
16 of respirator. It will be a stand-alone subpart in  
17 the regulation.

18 So with that, I'd like the panel to consider  
19 on this topic these questions. These are better to  
20 reflect the unit as combinations of existing types of  
21 respirators or the classification as a new type, or  
22 the other things that we should consider. And I'll

1 start with Chief Rivera.

2 MR. RIVERA: Well, from my perspective,  
3 we've got these existing respirators; APR, PAPR, SCBA.  
4 So you know, I mean I look at it as a combination of  
5 existing respirators. There are other applications  
6 come on line, though, as you mentioned with the  
7 Wildland potential respirators that are being  
8 developed or the standard that's being developed for  
9 those. But I perceive them as existing respirators.

10 MR. SZALAJDA: Brian.

11 MR. MONTGOMERY: I guess from my perspective  
12 I agree with that and -- what needs to be looked at is  
13 our assessment of the standards, as exist, and to see  
14 if they are technology prohibitive. And what I mean  
15 by that is that we don't paint ourselves into a corner  
16 with the way the standards are written and only a  
17 certain type of technology can be used. Because as  
18 the chief said, there's stuff coming on line and  
19 there's stuff happening and materials and various  
20 other R&D efforts that could really push the envelope  
21 on some of these technologies. And if we make it as a  
22 combination of current respirators, we may be limiting

1 ourselves to what might be available.

2 But we do have a lot of knowledge on what  
3 those are so -- I'm common defense on that one.

4 MR. SZALAJDA: Okay. And Bill Haskell.

5 MR. HASKELL: Yeah. I think the best way to  
6 define these is still very foggy. And I appreciated  
7 the gentleman from Avon showed the combination versus  
8 the hybrid concept. And I think it depends on the  
9 design and configuration of these systems and where  
10 they go.

11 If you're selling basically like a CBRN  
12 certified SCBA and then you're selling a module or  
13 PAPR unit that can plug onto the back of it very  
14 easily, maybe that's one type of category. But if  
15 you're selling them something like that hybrid, which  
16 everything is permanently designed and fastened  
17 together. And you wear everything every time you  
18 enter, I think it's a little bit of a different  
19 situation.

20 So I think we need to see where it goes from  
21 there and what type of modularity and build and  
22 dismantle capability the systems have.

1 MR. SZALAJDA: Joe.

2 MR. RIVERA: Yeah. To the standards  
3 themselves, and I remember being on a FPA 1500  
4 Committee on Firefighter Occupational Safety and  
5 Health, and have been for about the last, I guess,  
6 nine years, so familiar with that. But they are  
7 consensus standards.

8 And I would fully agree with Brian where he  
9 made the comment that the new technology industry is  
10 coming on line with every day the new and improved  
11 mousetrap, whatever that may be. And the standards  
12 preclude the use of some of the improved materials,  
13 components, whatever they may be, for various types of  
14 PPE.

15 So I strongly agree with that. There are  
16 some design things that preclude us from using the  
17 technologies that will meet the performance standards  
18 and that just seems to be a no-brainer. So I fully  
19 agree with you.

20 MR. SZALAJDA: I'd like to take any  
21 questions or comments on this -- on the definition  
22 topic from this floor.

1           If you have any questions regarding what the  
2 panel said or your opinions on the best way to define  
3 the CRU requirements.

4           MR. FINEGAN: Hi. I'm Bill Finegan. I'm  
5 retired Philly Fire and Rescue. And I've been  
6 thinking about this and it occurs to me that what  
7 we're talking about are two different sets of  
8 variables.

9           One is from a tactical perspective what  
10 options are available, which modes can you switch in  
11 it and out of. I think that that's one thing that  
12 needs to be addressed.

13           And then the second is how can the systems  
14 be configured, going on what Bill Haskell just said,  
15 that there are five different options and you can put  
16 those five different options together in five -- in a  
17 hundred different ways.

18           So there are a lot of solutions that  
19 industry could bring to the problem. And in order to  
20 build the gear that's needed in the field, you have to  
21 stay focused on, you know, what is needed by the  
22 operator. And just from my own perspective, the



1 language that we use is important. And I think that  
2 sometimes we make subtle mistakes that impact how we  
3 write the standards.

4 An example is calling it a 30-minute bottle  
5 or a 60-minute bottle. And that doesn't do any good.  
6 Instead of talking about a 30-minute bottle, if you  
7 could define it as a 600-liter bottle or 2000-liter  
8 bottle, you're just clearly defining the scientific  
9 elements of each piece and figuring out what the  
10 limiting factor is for each piece. I mean, bottle  
11 size is obvious. But something that's a little more  
12 subtle is if you have a PAPR and you put 16 cans on a  
13 PAPR and you say it will last for six weeks, but  
14 you're only given one battery, the limiting factor is  
15 the battery.

16 So looking at the complete system and  
17 figuring out what the limiting factors are for each  
18 piece of the system, and instead of creating a  
19 pass/fail standard, if you could, rather, view it as a  
20 way of determining what the attributes of each system  
21 that's created are so it will give you, you know, 60  
22 hours of PAPR and two minutes of air.

1           If you characterize each system that way, it  
2 allows the individual operators and individual teams,  
3 people who are purchasing the gear, to do their own  
4 trade-offs, to look at the gear, and, well, I need  
5 something because I'm at high altitude, or I'm in  
6 the -- you know, wherever I am. They can look at each  
7 set of gear and determine what the attributes are of  
8 the gear, test it scientifically against a standard.  
9 Standards are -- not a pass/fail, but a grade. It's  
10 just some thoughts I had.

11           Thank you very much.

12           MR. SZALAJDA: Thank you.

13           Any comments from the panel?

14           MR. PERROTTE: None.

15           MR. MONTGOMERY: I agree with what you're  
16 saying. You have the current pass/fail criteria for  
17 the protection part of it as to what gets in, what  
18 doesn't get in, and how that happens.

19           But to be able to give the user an  
20 opportunity to make a decision based on third-party  
21 testing of the equipment to determine what it actually  
22 does for them, that's a tough balance to do there.

1 Because typically as a standards organization or a  
2 federal entity, we can't really back a product or back  
3 a manufacturer.

4 So we have to be very careful how we handle  
5 that. But as long as it's a -- we did everything the  
6 same way and here's the results. You make your  
7 decision. I can see where that could be a benefit.

8 MR. SZALAJDA: Any other questions from the  
9 floor here in Pittsburgh?

10 John, it looked like you wanted to get up.  
11 Okay.

12 Anything from LiveMeeting?

13 MR. PERROTTE: I'm having a lag time. Hang  
14 on.

15 MR. SZALAJDA: Okay.

16 MR. PERROTTE: Hearing is along the way.

17 MR. SZALAJDA: Okay. Do we have -- I'm  
18 sorry. Go ahead.

19 MR. SPELCE: Can you hear me?

20 MR. SZALAJDA: Yeah. Go ahead, LiveMeeting.

21 MR. SPELCE: This is Dave Spelce with the  
22 Navy and Marine Corps Public Health Center.

1 I've got from a respirator program  
2 management perspective, I recommend having separate  
3 approvals for each operational component, mode of  
4 operation, which will align with the OSHA policy and  
5 29 CFR 1910.134(d)(3)(i)(A), which states: "When  
6 using a combination respirator, employers must ensure  
7 that the assigned protection factor is appropriate to  
8 the mode of operation in which the respirator is being  
9 used."

10 MR. SZALAJDA: Okay. Thank you, Dave.

11 MR. SPELCE: Thank you.

12 MR. SZALAJDA: Any comments from the panel  
13 on that suggestion?

14 Okay. Any other LiveMeeting comments?

15 Okay. Any social media? Are we back up?

16 MS. POWELL: No. We're still off line.

17 MR. SZALAJDA: Still off line. Okay.

18 The next topic is performance related  
19 regarding the performance parameters associated with  
20 the use of the Combination Respirator Units, you know,  
21 what types of performance activities.

22 We heard in the presentations this morning

1 some of the factors that have gone into the current  
2 products and whether or not those factors are  
3 pertinent to what goes into the CBRN product, the CBRN  
4 CRU product. Also, we're also curious to hear  
5 feedback on types of use restrictions that may be  
6 necessary for this type of product, as well as  
7 identification and special cautions and limitations.

8           And what I'd like to do is we'll start with  
9 Bill Haskell this time and work in reverse order.

10           MR. HASKELL: Well, related to performance  
11 parameters, I think one thing we need to consider is  
12 the protection afforded the wearer is a system of  
13 equipment, not just the respirator, but also the  
14 ensemble.

15           And the National Institute of Justice  
16 recently finished and successfully released a new  
17 standard for CBRN protective ensembles for law  
18 enforcement, which does define hazards and exposures  
19 for four different categories of law enforcement  
20 responder levels. It also requires that the ensemble  
21 manufacturer submits specific makes and models of CBRN  
22 approved respirators for the ensemble certification

1 process.

2           So I think maybe that standard that was  
3 developed for law enforcement is going to help start  
4 to put a frame around the performance parameters for  
5 the entire system, including the respirator.

6           One of the things you consider in one of  
7 those standards, LERL-1 for use with the self --  
8 Supplied Air Self-Contained Breathing Apparatus is  
9 going into things like drug lab takedowns in an  
10 unknown environment. And, you know, when you get down  
11 to the fourth level, that's more where a law  
12 enforcement officer would be doing perimeter patrol  
13 and be allowed to wear an air-purifying respirator.  
14 So I think some of the ensemble standards will also  
15 help drive the performance parameters for the  
16 respirators.

17           MR. MONTGOMERY: You know, I fully agree  
18 with Bill. And I was actually going to say pretty  
19 much the same -- in all the same thing.

20           And a lot of the requirements and issues I  
21 brought up in my presentation, some of those are nice  
22 to have and some of those are must. And some of those

1 things need to be, I think, researched further. A lot  
2 of it is anecdotal. There is some data behind some of  
3 those needs and requirements. But in order to really  
4 get a good parameter, a performance parameter put on  
5 those different needs, there probably need to be some  
6 more research to really get down to what is the cause  
7 of the issue and what is the real need for those.

8           Any special cautions, limitation  
9 identified -- again, I think we discussed a little bit  
10 of this. It's truly a training issue, especially when  
11 it comes down to understanding your equipment,  
12 understanding whatever input you have to change  
13 between the different modes, whether that be in  
14 automatic and knowing when it goes to automatic why  
15 it's doing that and what's going on, whether it's a  
16 sensor you carry and you have to manually do it  
17 yourself.

18           That's going to be a hurdle that's going to  
19 have to be -- going to have to be taken. And when it  
20 comes to a law enforcement community, over 80 percent  
21 of the community is less than 50 officers in a  
22 department. So when it comes to that and the funding

1 they get and it comes to training, it's a difficult  
2 issue. And I would hate to see something happen that  
3 it comes down to a training issue has caused an injury  
4 or a fatality as opposed to technology. So somehow I  
5 think we need to find a way of -- I may not say  
6 marrying those together, but having a good program put  
7 behind it if this comes through.

8 MR. SZALAJDA: Chief.

9 MR. RIVERA: Yeah. I would concur with  
10 the -- on the performance side. It's going to be  
11 specifically user based. The LE community is going to  
12 be entirely different than a standard state side fire  
13 department. And then if you go to military  
14 firefighters and combat operations, that's going to be  
15 fully different. So that's going to be a user base.

16 And on the special cautions and limitations,  
17 you're going to have a ton of those. And if you were  
18 to look at our -- and they're going to be driven by  
19 the manufacturer's lawyers. If you looked at our  
20 technical orders and user instructions, you're going  
21 to have cautions, air-purifying respirator cannot be  
22 used in IDLH environments, for example, because you



1 will die in there trying to use APR.

2 And then with the systems themselves, they  
3 are more complex so you, obviously, have a big  
4 training role. And that's true with any of our  
5 equipment, but training is a -- yeah, play a huge  
6 part.

7 MR. SZALAJDA: Thank you.

8 Any questions from our participants here in  
9 Pittsburgh on this subject or any comments that you  
10 would like to make on this subject?

11 MR. NELSON: Jon Nelson, Navy Protection.

12 This question is for Bill.

13 Bill, you mentioned the NIJ CBRN PP Air  
14 Ensemble standards in the LERL-1. And LERL-1 it  
15 states that the operator may make entry into an  
16 environment with a flash hazard.

17 In that flash hazard, is a 1981 certified  
18 SCBA appropriate for that environment, or if the mask  
19 is or will meet a 1981 standard, would that be  
20 appropriate?

21 MR. HASKELL: I think it was a bit -- if it  
22 met the 1981 standard, it would be appropriate.

1 MR. NELSON: Uh-huh.

2 MR. HASKELL: The 1981 standard now I  
3 believe has that preheat, and then it goes in front of  
4 a bank of propane burners for so many seconds, which I  
5 don't know what your thoughts are. But I don't think  
6 that is an overly arduous test to pass. It may be  
7 similar to the type of flash over or flash exposure  
8 you might see in drug lab explosion, you know. So I'm  
9 sort of on the fence as to how we characterize the  
10 fire hazard and explosion type scenarios that a law  
11 enforcement or a tactical officer needs to be  
12 protected against.

13 MR. NELSON: Okay. But would you recommend  
14 going down two different paths for a standard?

15 MR. HASKELL: When Dan made the comment  
16 today, Dan Rossos, and I was talking to Clint Kaller  
17 in the back about it, who's also on that committee of  
18 a proposal to actually consider splitting out the two.  
19 I think that sounds like a good path to explore.

20 MR. NELSON: Right.

21 MR. HASKELL: But I think we need to very  
22 carefully look at the performance criteria currently

1 in the NFPA 1981 standard, because I bet a vast  
2 majority of them may have application to both the fire  
3 service -- and we're saying emergency responder, but  
4 I'm thinking the tactical law enforcement community  
5 probably has a little bit even more unique than the  
6 general emergency responder community.

7 MR. NELSON: Right.

8 MR. HASKELL: And all the other issues of  
9 physical durability and drop and shock and vibration,  
10 you know, they're going to be commonalties there too.

11 MR. SZALAJDA: I think that's a very  
12 pertinent topic, and actually two slides away we talk  
13 a little bit about 1981 and we continue that. We can  
14 continue that as well.

15 MR. VALOSKI: All right. Mike Valoski from  
16 MSHA. We do a lot of work in mine emergencies and  
17 whatnot. And a lot of environments are tight, to say  
18 the least. It took me 25 years to be able to stand up  
19 in a cold mine.

20 Is there any thoughts about the size of  
21 these things and for mine rescue personnel to be able  
22 to crawl through tunnels?

1           MR. SZALAJDA: That's a good comment. I'll  
2 take -- I'll at least mention something up front and  
3 then let the panel weigh in.

4           You know, the size of these types of units  
5 is a consideration. And there are efforts underway,  
6 you know, in various forms to look at least reducing  
7 the profile for the SCBA. In particular, the IAFF has  
8 undertaken a project with DHS and others to look at a  
9 flat pack SCBA, which basically reduces that back  
10 profile of the SCBA system which is currently under  
11 evaluation.

12           I think with the development of these  
13 requirements from the standpoint of how we define the  
14 performance, you know, the technology needs to be --  
15 the standard needs to be open enough that we can look  
16 at other technologies, as well as what we  
17 traditionally consider, like the SCBA and the  
18 evolutions with looking at how we change the cylinder.

19           You know, there may be other technologies  
20 similar to what NASA uses with regard to their  
21 propellant handlers ensemble, where they use a  
22 closed-circuit technology to provide for extended

1 duration type of operations. I think it will be  
2 similar to what, you know, we look at with the  
3 Closed-Circuit SCBA, you know.

4 And I think it's part of what we hope is a  
5 market driven type of activity where, if we define the  
6 performance requirements adequately, that the  
7 technology developers can look at that in relation to,  
8 well, my user community wants to have smaller, lighter  
9 packages and design equipment that way, you know.

10 And then I think, just to sum up, there are  
11 activities looking at the SCBA. But that's not to  
12 mention that others can't step up to the plate and  
13 look at making the technology smaller.

14 MR. HASKELL: I was just wondering if anyone  
15 knows between the mine environment and emergency  
16 services confined space rescue, if maybe they're some  
17 of the same issues as far as physical size and volume  
18 and such for the respirator?

19 I don't know.

20 MR. RIVERA: Size and weight are certainly  
21 an issue. But again, it comes down to user base  
22 issues and thinking about that 1981 standard. That

1 thing could really -- I think that's a real good idea  
2 to have potentially two different standards and one  
3 that addresses other users.

4 One of the changes on the 1500 committee  
5 that we're currently working, as the gentleman earlier  
6 addressed, a 30-minute, a 45-minute, 60-minute  
7 cylinders really doesn't mean anything. And we're  
8 getting away from that terminology with the current  
9 revision. And it's going to go to, you know, the  
10 volume of air that you have in an existing cylinder.

11 One thing, though, that -- which could in  
12 the firefighting business potentially drive an end to  
13 the use of 30-minute cylinders. However, we need to  
14 be careful in doing that type of thing because there  
15 may be applications where 30-minute cylinder remains  
16 appropriate.

17 So, for example, people doing the  
18 investigations at a WMD house and they're operating on  
19 APR. They don't need the hour cylinder, the 45-minute  
20 cylinder. They need some type of escape, whether  
21 that's 30 or even potentially smaller like we have  
22 with confined space units. So really, you know, as we

1 make the changes to the various standards, you need to  
2 be aware that there are many different users with  
3 different requirements.

4 MR. DUFFY: I'm Rich Duffy. I'm with the  
5 International Association of Firefighters, and for  
6 those who are unaware, the International Association  
7 of Firefighters is the labor unit and we represent  
8 about 297,000 men and women firefighters and emergency  
9 medical personnel.

10 Thanks for the little ad about the flat  
11 pack. I'm not here to talk about that, but I thank  
12 you about it. And in fact, that will be a project  
13 that's done. We have a March 31 deadline. Why it's  
14 been held up and why you haven't heard anything over  
15 the last two months, we're back in DOT for amended  
16 approval. And if you want to watch paint dry, go  
17 through the DOT approval system. And I'll leave that  
18 comment as it is.

19 Let my say right off the bat that we support  
20 work for a combination unit. I think there's a need  
21 for it. I think what we need to address in this  
22 discussion should be what is the operational use of

1 this?

2           And there's two areas that I can look at.  
3 One, it is an escape device when you run out of air,  
4 highly appropriate, highly needed. And by the way, I  
5 don't need to be lectured that there's lots of escape  
6 units that you can buy, put in our pocket right now.  
7 Because you know what, they've been around for a long  
8 time. No one has them in their pockets and no one is  
9 going to buy them and put them in their pockets.

10           But the fact if you have a device where  
11 that's included, that is certainly a need for it and  
12 clearly we can demonstrate over and over again would  
13 have saved firefighters' lives that ran out of air,  
14 whether they're in an IDLH atmosphere or a  
15 oxygen-deficient atmosphere, which I guess, you know,  
16 they won't help for. But certainly we believe that  
17 running out of air and having something to filter out  
18 through an APR or a PAPR would be a monumental  
19 benefit.

20           The second operation is use it as, you know,  
21 an operational tool, where you can go between -- in a  
22 SCBA and a PAPR, APR, clearly a need for that as well.



1 But I think that's what discussions are because there  
2 may be different parameters for each different device.

3 And I would also like people to remember  
4 that the 19 -- whether it's right, wrong, or  
5 indifferent, the law right now for the CBRN  
6 respirators, SCBAs require NFPA 1981 certification.  
7 So all the CBRN SCBAs are right there do have 1981  
8 certification, regardless if they're used by  
9 firefighters, police, or transit workers; and I don't  
10 know, whoever else may be using it. They are required  
11 for that.

12 And perhaps, when we begin this discussion,  
13 we should also relook at the terminology that we're  
14 using for CBRN, because you know what, CBRN now is  
15 becoming a luxury out there in the real world and many  
16 jurisdictions are saying, hey, that's something that  
17 New York City has to worry about or Los Angeles has to  
18 worry about or Chicago worries about. It's really an  
19 all hazard device.

20 The new CBRN requirements made -- regardless  
21 what everyone may say, it made a better respirator.  
22 And clearly, the changes that were made to meet the

1 must heard siren issues made it a better respirator  
2 for all -- all things that you'd be wearing that  
3 respirator for.

4           But back on the subject. I think the  
5 operation user is clearly important as a rescue unit  
6 which should be out there tomorrow or this afternoon,  
7 clearly for that. And then whether if we can have an  
8 operations -- and I clearly believe that there is a  
9 need for and a use in the fire service, and I only  
10 speak for the fire service, for a non-SCBA respirator  
11 out there. Because the choice is either wearing an  
12 SCBA or wearing nothing right now. And the case is  
13 we're all too often wearing nothing so -- so I'm here  
14 for supporting it. And I appreciate the discussion,  
15 and thanks a lot.

16           MR. SZALAJDA: All right. Thank you, Rich.  
17           Any other comments on that from our panel?

18           MR. FINEGAN: Hi. I'm Bill Finegan. And  
19 while I am retired Philly Fire and Rescue, I am  
20 certified as a paramedic, and that's where I spent the  
21 vast majority of my career. And I respect NIJ. I got  
22 a lot of respect for the fire service. I noticed that

1 in this discussion my mission, emergency medical  
2 services, isn't being addressed.

3 And when you look at the plausible worse  
4 case scenario, credible threat of WMD, the primary end  
5 of any of those devices is to terrorize people. So we  
6 can talk hot zone, warzone, cold zone all we want.  
7 The fact of the matter is anytime USA municipal  
8 stadium gets hit with whatever, it is 10,000 people  
9 are going to have to come out of that facility and  
10 10,000 people are going to have to get triaged. And  
11 if you can triage them before you do your DECON, it  
12 makes everything a whole lot easier.

13 I just put it out there that the EMS mission  
14 should be addressed in 1981 and by the NIJ standards.  
15 Thank you.

16 MR. SZALAJDA: Good comment. Thank you.

17 MR. RIVERA: To that -- in 1500, we  
18 addressed on the EMS side respiratory protection, but  
19 I think your point is real good. And with the 1500  
20 currently under revision, that might be something that  
21 you would want to insert as a public comment.

22 We do talk -- when we talk respiratory

1 protection for the EMS user, it's basically focused on  
2 a traditional person with some type of disease and not  
3 so much directed to the attack. When it comes to the  
4 chem bio attack, we're kind of fire centric.

5 And, of course, in the fire business, the  
6 EMS is our bread and butter pretty much worldwide now.  
7 So very important.

8 MR. ANAYA: Hi. My name is Chris Anaya with  
9 Metro Fire Sacramento. I have more of a question or,  
10 I guess, comment regarding the discussion, the topics  
11 listed up there. And it applies not just to CRUs, but  
12 CBRN in general.

13 In Sacramento should we have, let's say, a  
14 dirty bomb event down at the Capitol, we would -- of  
15 course, for our SCBAs initially, and probably switch  
16 over to our negative pressure APRs with a CBRN  
17 cartridge attached. But we have Cap 1 cartridges and,  
18 you know, the rating is 10 minutes.

19 The challenge -- the test criteria for that  
20 was 10 minutes, I believe. And it's hard to translate  
21 that into a lower dose atmosphere, a less concentrated  
22 atmosphere than a test atmosphere.

1           And I've always wondered, well, how long do  
2 they really last because they're rated for 10 minutes.  
3 Surely they'll last longer than that in an environment  
4 that's not as concentrated. But there's no way of  
5 knowing when that end of life for that cartridge ends.

6           So I was wondering with the combination  
7 unit, I would assume that you have to have something  
8 like that, so somebody could either switch back to a  
9 bottle or to get out of the hot zone, something.  
10 Because it's really -- I think it's guesswork unless  
11 there's some material that I missed.

12           How would a user know when you're having a  
13 bypass through your cartridge in this environment? I  
14 really don't know.

15           MR. SZALAJDA: And actually that's a very  
16 good -- very good comment, Chris.

17           And I think I have a couple of things to  
18 address on that. I think one, it's -- you know, when  
19 we looked and we developed the CBRN canisters, so the  
20 protections for the canisters. We took the  
21 approach -- and you'll see it with not just the CBRN  
22 products, but as we move forward with other things --

1 that we're going through a capacity identifying things  
2 by how much capacity that the respirator or that the  
3 particular function, whether it's the cylinder or  
4 canister. You know, whatever the mode is, how much  
5 capacity does that component have to afford  
6 protection?

7           And in doing the research behind the test  
8 times, we looked to establish certain minimum levels  
9 of capacity and the Cap 1 is a test time of 15  
10 minutes; that when we do the gas -- when we do the gas  
11 and vapor testing for certification, the test are  
12 limited to 15 minutes. And by doing that, we  
13 establish a minimum performance capacity for that  
14 canister. You know, and then it falls back to -- and  
15 it's not necessarily a good answer for your question,  
16 but the answer is it goes back to -- it depends on you  
17 using the industrial hygiene tools available for you  
18 to do monitoring and identifying the concentration in  
19 that to determine based on knowing what the capacity  
20 is, how long you can use that particular device for.

21           Because we know at least with regard to some  
22 of the testing and some of the TRAs, that some of

1 these canisters will last for hours, days, you know,  
2 depending on what the challenge is.

3 And so part of it becomes the tool that we  
4 need to do, and then, I think, in terms of how we  
5 develop guidance is to make products available to you  
6 as the user to be able to address how long do these  
7 things happen.

8 NIOSH has developed some tools to try to  
9 look at that, you know, through our research program.  
10 There's a service -- a thing called MultiVapor, and  
11 another tool which help with identifying the change  
12 out schedules associated with the use of the canister  
13 against different types of hazards.

14 MR. ANAYA: Isn't that available for free?

15 MR. SZALAJDA: Yeah. And it's available for  
16 free. And it's available either through the NIOSH or  
17 the NPPTL website or the OSHA website.

18 Another aspect of that, and I think it ties  
19 into some of the research that we do at NPPTL and that  
20 others are undertaking, is looking at the end of  
21 service life indicator for cartridges and canisters.

22 And last week at the TSWG -- and I'll

1 butcher his name so I won't say it, but he -- there  
2 was a presentation given with regard to looking at  
3 color metrics that could be added to the outside of  
4 the canister to give you an indication where this is  
5 going with regard to how much useful life is left in  
6 your canister with regard to dealing with the  
7 challenge that you're facing.

8           And I think one of things that we're looking  
9 at seriously is part of our PAPR requirement in this  
10 whole -- and it's all incestuously interrelated with  
11 regard to our standards development portfolio, is one  
12 of the things we are seriously considering  
13 incorporating with our powered air-purifying standard  
14 in the future is the mandatory use of and the service  
15 life indicators. And that's one of the questions that  
16 we're going to put out to the community as part of the  
17 advance notice to determine, engage where technology  
18 is with regard to how an end of service life indicator  
19 can be applied to a PAPR. And that opens the -- when  
20 you look at this type of device, that opens a  
21 forefront to being able to incorporate that type of  
22 technology and make it into products for the user



1 community to have to help in dealing with these  
2 things.

3           You know, and I think with -- this is kind  
4 of a long-winded discussion. But you kind of get an  
5 appreciation of how -- you know, with the regulatory  
6 agenda how important the pieces all fall together.

7           And one of the things that we appreciate as  
8 a result of the public comments that we got with  
9 regard to the things that we were doing from a  
10 regulatory standpoint is the linkage considerations  
11 between the standards.

12           And so I think, you know, there are things  
13 that we can do now -- and this is a long answer to a  
14 very easy question, but I hope you'll bear with me on  
15 it. But I think, you know, there's things that we can  
16 do, you know, as a safety and health organization to  
17 develop and promote guidance to help make your  
18 selection and use criteria either. And we're in the  
19 process of developing several products for CBRN  
20 respirator selection use maintenance and guidance to  
21 try to help answer those types of questions. Your  
22 raising the issue here, you know, increases that level

1 of awareness.

2           The other aspect of that is I think by you  
3 making that type of comment it also lets our industry  
4 stakeholders know that this is a concern, you know, at  
5 least with regard the application. And those are  
6 things that we can jointly deal with to address it  
7 through the development of the standards.

8           Any comments from the panel?

9           MR. RIVERA: Well, those -- obviously, we  
10 have different standards then. I don't know if the  
11 engineers in the room want to speak to it. But the  
12 filters perform well. And a lot of that guidance is  
13 published that the manufacturers have that would let  
14 you know. But again, you wouldn't have the actual  
15 indicator with you. You would just have a given  
16 guidance that they could publish.

17           MR. ANAYA: A couple of follow-up.

18           MR. SZALAJDA: Okay.

19           MR. ANAYA: One of the difficulties I  
20 foresee is the fact that air monitoring is great, but  
21 what are you monitoring for? What constituents?  
22 What's your threat?

1           And then, of course, personal monitors in  
2 terms of radiation. Well, everybody will have a  
3 cylinder with them for Gamma. But that's just one  
4 specific item.

5           We can have area monitors spread around.  
6 But you're going to have some of the chemicals of the  
7 constituents could be transient. They could have high  
8 dose and with the wind currents. I mean, so you're  
9 going to be limited to really know what concentrations  
10 you have.

11           You can have microclimates, winds around the  
12 building. You'll have at east (phonetic) of air  
13 pockets. It will move in different directions,  
14 depends where somebody is working so -- and it's  
15 impossible, you know, with a four or five gas monitor  
16 to really know what you have other than to tell you  
17 how much oxygen you have in the air and maybe CO,  
18 hydrogen sulfide, perhaps, a flammable range. But  
19 that's pretty much it. It doesn't really -- it won't  
20 tell you anything else.

21           And so depending on what's involved, what's  
22 being released, it's a crap shoot. It really is. You

1 take your best guess what was done, of course -- I  
2 guess that's part of the problem. It's really a gray  
3 area for me. And I need to learn more about this  
4 stuff, obviously, because I didn't know there were  
5 even documents out there. But it's just something I  
6 personally have struggled with myself.

7 MR. SZALAJDA: I think it's a good comment,  
8 Chris. And I'm sure you're not the only one who has  
9 these topics. But I think I heard a couple things out  
10 of your discussion and it follows-up on a point that  
11 Bob Sell had made earlier. And the discussion is  
12 about the need for detection capabilities and whether  
13 we look at detection capabilities as part of  
14 integrating it into this apparatus or if there are  
15 other ways that need to be able to address that. And  
16 also the whole concept about know technologically  
17 what's currently available, you know, that can be  
18 provided to the response community in this item.

19 You know, I would -- personally I would  
20 think at a minimum we would need some sort of oxygen  
21 sensor with this type of technology so that you know  
22 you can be in one environment or another. But there

1 are others that need to be considered.

2 So with that, I think what I'd like to do is  
3 check LiveMeeting and see if we have anything on  
4 LiveMeeting on this subject.

5 Yeah. Well, a little bit of a lag here.

6 Are there any comments or questions on the  
7 discussion as far as performance parameters from  
8 LiveMeeting?

9 MR. NEWCOMB: Jon --

10 MR. SZALAJDA: Yes.

11 MR. NEWCOMB: -- this is Bill Newcomb with  
12 NIOSH.

13 I'd like to make a comment using the ISO  
14 administration hat in the fact that a lot of the  
15 things that we're talking about here and whether it's  
16 NIOSH present revisions to 42 CFR 84 or things that  
17 are being talked about in 1981 standard or other  
18 standards are being considered in the ISO arena and  
19 the act that's being taken is to design performance  
20 requirements around the needs of the user, rather than  
21 the products. And we have had input -- a lot of  
22 input -- from the fire service, but no input from

1 Justice at all in trying to come up with some  
2 requirements for products.

3           The way the classification of the ISO  
4 standard is proposed would allow one to have, for  
5 instance, an SCBA which has basic performance  
6 requirements. It may have different work rate  
7 requirements and different protection levels.

8           If you need a CBRN, that's a specific  
9 application and there are certain requirements that  
10 would be added on for CBRN. If you need structural  
11 firefighting, there are certain additions that would  
12 be put on for structural firefighting.

13           If you have Marine offshore firefighting,  
14 there are different requirements. For mining, there  
15 are different requirements. Because, for instance,  
16 the vibration that is seen in mines is much different  
17 than the vibration that might be seen on the back of a  
18 fire truck.

19           So I think that the people should be aware  
20 of what's going on and I would like to put a plug in  
21 for anybody that would like to be a member of the ISO  
22 U.S. Technical Advisory Committee, that we welcome

1 users. We don't have enough of them, which is usual  
2 on standards writing committees. And if anybody wants  
3 to participate or give us their input, the secretary  
4 is the International Safety Equipment Association,  
5 ISEA. And they will be glad to give people the  
6 opportunity to join us in writing the standards of the  
7 future. Thank you.

8 MR. SZALAJDA: Thank you, Bill. And I don't  
9 mind the shameless plug, but the --

10 I think, again, it goes back to the point I  
11 made about, you know, you can kind of understand the  
12 complexity and the interrelationship between, you  
13 know, trying to use and adopt, where appropriate,  
14 international and national consensus standards and  
15 again Brian's participation here today to reflect some  
16 of the law enforcement needs in opening that -- you  
17 know, that channel, I think, only serves to improve  
18 the quality of the product.

19 Any other comments from LiveMeeting?

20 No?

21 Social media?

22 MS. POWELL: Jon, the CDC e-mail is down.

1 MR. SZALAJDA: CDC e-mail is down. Okay.

2 Well, then we'll go ahead and move. There's  
3 two more topics between now and lunch. So we'll march  
4 through those here.

5 Earlier we had heard a comment from Dave  
6 Spelce regarding the relationship with OSHA, the 1910  
7 120 standard. And part of what we would like the  
8 community to help us identify is government and  
9 consensus standards that need to be addressed  
10 regarding the use of Combination Respirator Units and  
11 also how we identify the requirements.

12 Are new requirements needed to address the  
13 added capabilities, or can we exist or look at  
14 existing provisions to modify or eliminate because of  
15 new technologies?

16 So I think we'll start with Bill again and  
17 work down the panel and then we'll open it up for  
18 comments.

19 MR. HASSELL: Well, seems like one of them  
20 is the OSHA standard that requires that the  
21 combination unit will actually be rated at the lowest  
22 level of -- the lowest mode of operation.



1 MR. SZALAJDA: Well, there would be, I  
2 guess -- and I'd have to -- I was trying to take notes  
3 so I can ensure that the assigned protection is  
4 appropriate for each level. So whether or not that  
5 will have to be an evaluation criteria, we'd have to  
6 determine. Bill.

7 MR. HASKELL: I don't really have any  
8 additional comments. I think we've already talked  
9 about the government standards and the concensus  
10 standards, and I have nothing else to share right now.

11 MR. SZALAJDA: Okay. Brian.

12 MR. MONTGOMERY: No. I'm about the same  
13 there, Bill.

14 Just to go back to what you said earlier  
15 about being a -- part as a system, if we are starting  
16 to have operational standards come out what happens to  
17 be, the overall protection of the system needs to be  
18 coordinated between those standards to make sure we  
19 don't have a piece that's not protective enough or  
20 overly protective; it's not needed. So I think we  
21 need to make sure that when we do this, that we look  
22 at those.

1 MR. RIVERA: And I believe the OSHA standard  
2 that Bill mentioned or any other standard that would  
3 preclude the use of the system in the way the user  
4 needs to use it.

5 MR. SZALAJDA: And I want, at least -- and  
6 then we'll take comments. At least one of the things  
7 that struck me last week at the TSWG Conference was  
8 when you look at PPE in general, there really is a  
9 systems need and I think -- I'm hopeful to address the  
10 development of this technology.

11 The examples that I have are related to,  
12 well, the SCBA, you know, in relation to the use in  
13 the firefighter ensemble, that we're looking at  
14 requirements for the SCBA to make it more compatible  
15 with the protection, the heat and flame protection  
16 that's afforded in the ensemble that their test is  
17 completely different criteria with regard to heat and  
18 flame.

19 And that creates a disconnect where we see  
20 the facepieces may fail or have failed in application.  
21 You know, several presentations that come up at TSWG  
22 was with regard to the increase in head injuries, you

1 know, for service members coming back from the wars.  
2 And the fact that, you know, I guess we call it  
3 pulmonary protection; the body armor, the other parts  
4 of their ensemble are doing such a good job in  
5 protecting them that we're now seeing an increase in  
6 head injuries as a result of maybe the helmet not  
7 affording the same degree of protection to them as  
8 other parts of the ensemble. Whereas, in the past  
9 these guys would have been casualties, you know, and  
10 wouldn't have come home.

11 And now, you know, looking at them as a  
12 system, you know, you're able to identify the weak  
13 performance aspects of them as an ensemble or them as  
14 a system. And I think that's, you know, in looking at  
15 a system's approach for this particular piece of  
16 equipment, I think, is going to be very important, not  
17 only from the standpoint of the piece of equipment  
18 itself, but also it's interrelationship with how it's  
19 going to be used in the user community.

20 MR. DUFFY: Rich Duffy again, Firefighters.

21 First of all, I'm just going to repeat  
22 myself. But I think it's important for the record.

1           We clearly believe that you need all the  
2 CRUs meet the CBRN requirements. But I think as I  
3 said before, this also gives us the opportunity to  
4 address what CBR really means.

5           And I'm telling you right now that everybody  
6 out in the field that CBRN means terrorism. It  
7 doesn't mean a little hazardous. So it clearly has to  
8 be addressed.

9           I also think this is an opportunity to think  
10 outside the box, and I think everybody's vision here  
11 right now, and even the slides if you've seen them,  
12 units that we're well aware about are basically taking  
13 an SCBA and sticking an APR or a PAPR on it, that we  
14 know of today. And it's time to think there may be a  
15 different unit out there. We certainly need to look  
16 at our friends in the mining industry how they have  
17 changed some of their filtering devices that are  
18 smaller, that don't look like respirators that we know  
19 of today and the possibility of utilizing or  
20 incorporating them in any CRUs out there.

21           So I don't think this is just an opportunity  
22 to get it out to the marketplace real quick by

1 sticking one of your APRs on your SCBA. But it's  
2 time to change that technology that's out there. And  
3 there is technology that exist that people need to  
4 consider for the CRUs and, perhaps, they need to be  
5 part of the standard as well.

6 We don't need to add lots of weight. We  
7 don't need a lot. And profile is important to us for  
8 entanglement hazards, which we really don't address in  
9 any PPE very well. And I think that needs to be  
10 looked at as well. So outside the box is clearly an  
11 opportunity right there and certainly the CBRN  
12 industry. And I don't know if people -- and I don't  
13 know. I can't remember what I said a while ago, so  
14 I'll say it again. People are aware, but you  
15 talked -- one of the speakers this morning talked  
16 about DHS funding or FEMA funding. And people need to  
17 be aware that the only federal funds allowed for  
18 purchasing SCBA are SCBAs that meet CBRN standard.

19 So you are -- communities are restricted to  
20 only buying CBRN approved certified respirators using  
21 any of the funds. It is on the approved equipment  
22 list, and only those that meet the CBRN requirements

1 are on that list. Thanks.

2 MR. SZALAJDA: Thank you, Rich.

3 Any comments from the panel?

4 MR. NELSON: Jon, you mentioned systems  
5 approvals, and in Brian's presentation this morning he  
6 mentioned hydration.

7 In addition to that, I was also at TSWG last  
8 week and hydration for the firefighter, as well as the  
9 first responder and all first responders was a huge  
10 topic last week as far as respiration rates,  
11 rehydration, dehydration, and firefighter performance  
12 were some of the studies that have been classified and  
13 brought forward.

14 And as we look in going to a systems  
15 approach where you have the integration of PPE, be it  
16 bunker gear or a NFPA 1994, 1991 suit and then  
17 integration of hydration to that, what is NIOSH's  
18 position as we move forward into the future in the  
19 three or five year plan to certify complete ensembles  
20 as systems?

21 MR. SZALAJDA: Good question.

22 I'll give you my perspective on the complete

1 system first.

2           The approach that we've taken, you know,  
3 with regard to respiratory protective devices is that  
4 we will -- and this is in relation to the NFPA 1991,  
5 '94 suite of suits is that we'll evaluate the impact  
6 of the ensemble in regulation to whether it impacts  
7 the ability of the respirator to provide for the  
8 performance that it's supposed to.

9           And I think, for example, one of the things  
10 that we're doing as a research project this year is  
11 that we've gone out and we've procured the suite of  
12 approved products; the APRs, the SCBAs, the PAPRs  
13 along with all the ensembles. And we're going to go  
14 through a process of evaluating -- of doing a systems  
15 evaluation of how well the devices interface with each  
16 other.

17           The fact that I'm looking to develop our  
18 regulatory agenda is to try to move the identification  
19 of the standards to reflect the respirator  
20 performance for the devices. And we appreciate and  
21 acknowledge, you know, there does need to be  
22 interoperability and compatibility with the other

1 aspects of the PPE. But we don't necessarily either  
2 have the capability or the mandate to do that, that  
3 type of operation.

4           Yeah. So I think from a standards  
5 development standpoint, we would be looking to ASTM,  
6 looking to NFPA or ANSI to develop those types of  
7 standards criteria to fill the gap, you know, to allow  
8 and address and look at the integration issues so that  
9 the ensemble with the respirator as part of the  
10 ensemble it can be evaluated as a system.

11           But when you look at the current mandate  
12 that we have for NIOSH, we're focused on respiratory  
13 protection that's, you know, what -- when you look at  
14 the legislative and the regulatory mandate, you know  
15 we certify respirators. We don't certify everything  
16 else that goes with it. So we would look to other  
17 standards to fill that gap.

18           I hope that addresses the question.

19           MR. MONTGOMERY: If we continue down this  
20 operational standards path with using operational  
21 needs for the test methods for the various  
22 communities, I see there's a primary health and life



1 issue and that your breathing, pulmonary, hydration  
2 would fall under that.

3 Then there's secondary. And that would be  
4 your situational awareness. That's communication,  
5 field of vision, those types of things.

6 Maybe sometime down the line in the future  
7 we would be able to incorporate all of those. But I  
8 think initially we need to start looking at those  
9 primary pieces that without those you're going to have  
10 a bad day basically, so what.

11 I can see where that's definitely a need. I  
12 just don't know where it fits.

13 MR. SZALAJDA: That's a good point. I would  
14 go back to -- I think in the slides this morning, I  
15 had shown the recent NAS study looking at the  
16 certification of personal protective technologies and  
17 it's been a few weeks since I've looked through that,  
18 and it's not as clear as it should be.

19 But I think it recognize that NIOSH has a  
20 role to play, you know, with regard to providing  
21 leadership to get this done, but not necessarily from  
22 the standpoint of working in the context of what we do

1 to protect workers, you know, doing research and  
2 conducting activities to protect worker safety and  
3 health, not necessarily that it's our congressional  
4 mandate to certify those types of respirator  
5 technologies or PPT technologies, but to provide some  
6 leadership to identify ways of being able to get that  
7 done.

8           And again, I think I would encourage, you  
9 know, you guys. It's free -- it's free on line, to  
10 download versus buying a hard copy. But I think I  
11 would encourage all the participants to take a look at  
12 that and then maybe, you know, when we get together  
13 the next time to talk about our regulatory agenda that  
14 we can continue that conversation.

15           MR. FARLOW: Pete Farlow from the Edgewood  
16 Chemical Biological Center.

17           Just here to touch on the operational  
18 requirements that Brian had talked about earlier.

19           There's been a lot of effort in a lot of  
20 areas that he touched upon. And I think one of the  
21 problems is we don't have a venue to know what the end  
22 user is looking for -- other than his presentation

1 recently -- and we'd like to be able to prioritize  
2 some of those needs. Because there's been a lot of  
3 work done with areas, such as hearing attenuation,  
4 speech intelligibility, the mass properties that  
5 affect the ensemble, acoustic signatures, how people  
6 can hear things and speak about things.

7           A lot of information, a lot of reports out.  
8 And I just worry that sometimes we actually rush to  
9 get the standards done.

10           The NIJ standard that's out for the ensemble  
11 has come back to us now and asked to verify the  
12 acoustic signature requirement that's in there. So  
13 it's kind of like I just hate to see the cart  
14 sometimes get before the horse.

15           So there is a lot of information out there,  
16 not just an itchy-bitsy, but lately I've been kind of  
17 digging up some other information from other  
18 organizations that were doing the same type of work  
19 and now we're trying to get collaborative efforts  
20 together.

21           So there is a lot of operational issues for  
22 all the different responding end users. And, you

1 know, I don't know how we can get all that information  
2 together. But things like this -- you giving us this  
3 forum, Jon -- is very good. And there is a lot of  
4 information. So I'd be willing to share that with  
5 anyone. Thank you.

6 MR. SZALAJDA: Thank you, Pete.

7 MR. MONTGOMERY: That's one of the  
8 interesting pieces about the work I do is we try to  
9 support over 18,000 law enforcement agencies and 3,000  
10 correctional agencies and to try to get the  
11 requirements from all those entities is difficult.

12 When you have the military structure, they  
13 gather their requirements. They have a procurement  
14 strategy. They're able to make their purchasing  
15 through -- mass of purchasing through contracts and  
16 able to very specifically say what they want.

17 When you come out to the law enforcement  
18 community, they each have their own procurement  
19 strategies. They each have their own procurement  
20 methods. They each have their own way of writing up  
21 their contracts and getting their requirements. So it  
22 comes to actually getting law enforcement requirements

1 as a general topic. It can be difficult. Because  
2 when you go to different regions of the country and  
3 different operations and different concepts of  
4 operation, each of them have their own flavor of what  
5 they want and what they need to do.

6 So you can capture some of the high level  
7 pieces of that. But when you get really down and deep  
8 to the integral parts of -- for example, let's take an  
9 alarm. You may have a unit that says I want vibratory  
10 alarm and some that say no, I don't want that. I want  
11 something else. So to make that a requirement to be a  
12 specific type wouldn't be useful in this area. But  
13 they all do agree it has to be inaudible.

14 So it's a difficult situation for us on my  
15 side of the house with the law enforcement community,  
16 because we don't have a lot of the entities that a lot  
17 of the other communities have, such as an NFPA and  
18 other groups that do speak for their community.

19 MR. SZALAJDA: John, do we have anybody on  
20 LiveMeeting?

21 MR. PERROTTE: Sounds like it, yes. Hold on  
22 a minute.

1 MR. SZALAJDA: Okay. For this particular  
2 topic, do we have any comments from the LiveMeeting  
3 audience? Okay.

4 And still down?

5 MS. POWELL: Still down.

6 MR. SZALAJDA: Okay. And the last  
7 discussion is related and we've touched on it already  
8 with regard to the NFPA 1981 standard and the  
9 interrelationship with the NIOSH CBRN approval. And  
10 Rich and others have -- Rich Duffy and others have  
11 articulated this.

12 And just a little bit of history when you  
13 look back at why we did this. I think, you know, for  
14 CBRN we established tiers of requirements, tiers of  
15 performance requirements. And part of that was to  
16 base one off of Part 84 and try to use the respirator  
17 performance requirements in Part 84. But we also  
18 realized and recognized that because of the threat, we  
19 needed to augment the protections that were identified  
20 in Part 84. So we looked at national and  
21 international standards.

22 And in the evaluation of NFPA 1981, that

1 identified unique performance capabilities, what we  
2 felt were critical to the performance of the SCBA in  
3 dealing with a CBRN type of environment.

4           And in 2010, it was damn convenient because  
5 the standard was there and we adopted it in its  
6 entirety because it did exactly what we needed it to  
7 do at the time and also allowed us to get a standard  
8 out in a timely fashion. And then the warfare test  
9 were added on top of that.

10           In -- over time, you know, like with  
11 anything else, you know, the standard has been used  
12 and people have bought equipment. You know, we see  
13 there is potentially a need, and it's been articulated  
14 already about being able to address other aspects of  
15 the responder community, law enforcement, EMS, you  
16 know, to be able to have this product tailored to meet  
17 their needs.

18           You know, and I think in part of what we  
19 looked at with regard to the definition of the CBRN  
20 requirements, what we call CBRN for this, the CRU,  
21 they're very well-defined. We know how the SCBA  
22 should perform. We know how the PAPR, the

1 Air-Purifying Respirator should perform.

2 We've identified performance requirements  
3 for Closed-Circuit SCBA. The CBRN part is there, you  
4 know, and I think it's the aspect of, you know,  
5 tailoring and being able to address conformance issues  
6 with the other aspects with the human factors and the  
7 endurance and the environmental considerations that we  
8 subject the CBRN respirators to, what's important to  
9 transition into this type of product. And that led to  
10 the slide, at least in terms of how we adopt and bring  
11 in that extra tier of requirements.

12 And I will say this -- and I have to give a  
13 lot of credit to the NFPA on this, with the adoption  
14 of the CBRN requirements that really prior to the  
15 identification of CBRN, we didn't test CBAs against  
16 chemical -- the effects of any chemicals, at least not  
17 that I'm aware of, you know.

18 And the CBRN criteria by introducing that  
19 criteria into their standard was a huge step forward  
20 because now we had identified performance  
21 requirements, which identified penetration and  
22 permeation aspects that the respirator had to protect



1 against.

2           Then when you look at Saran and GB, there  
3 aren't very many materials out there which are not  
4 only designed to be, you know, personnel defeating,  
5 but also equipment defeating. And I think that was a  
6 big step forward, you know, a leap of faith on NFPA's  
7 behalf as well, in pulling that aspect and making it  
8 into a mandatory part of the 1981 standard.

9           And I think it's crucial, you know, in how  
10 we evolve the CRU standard to be able to maintain that  
11 interlinkage between, you know, the requirements of  
12 1981 as well as what NIOSH requires for CBRN approval.

13           So with that, I'll open it up and start with  
14 Bill.

15           MR. HASKELL: Yeah. I have a comment on the  
16 second bullet, other types of CBRN respirators do not  
17 require NFPA 1981 conformance. And 1981 is  
18 self-contained breathing apparatus standard. But the  
19 present, NFPA does not have standards for APR or  
20 PAPRs. But now NFPA is starting to go down the road  
21 to develop a standard for high flow rate Powered  
22 Air-Purifying Respirators. And I would envision that

1 in the future, perhaps, you will have a PAPR  
2 requirement that would require both the NFPA high flow  
3 rate PAPR and the NIOSH 42, Part 84 and CBRN all  
4 compiled into one.

5           So I'm thinking that down the road you're  
6 going to see the same type of model for PAPRs that you  
7 do now with CBRN and NFPA 1981 for self-contained  
8 breathing apparatus.

9           And I think a lot of the performance  
10 requirements in 1981 for durability and shock and  
11 vibration and heat and all the other things will have  
12 to be revisited for the NFPA PAPR standard. And I  
13 think everyone needs to be involved with that to make  
14 sure that's done in a logical process.

15           MR. MONTGOMERY: I guess my answer to this  
16 question is maybe. It goes back to whatever the  
17 intent of the test is. What are we testing the  
18 equipment against, and why it is being tested that  
19 way?

20           But a couple of standard efforts I've worked  
21 with, we looked at doing a salt spray test. So the  
22 question came back why are we doing it. Are we doing

1 it for Maritime Salt Water Operations, that they may  
2 get a little bit of salt water on the equipment, or is  
3 it to check the corrosiveness of some of the materials  
4 to check to see if that material is going to last or  
5 not?

6           So if we know what the intent of the test is  
7 and what threat we're testing against, then we can  
8 make a determination as to which pieces comes in --  
9 and which should and shouldn't be there for the  
10 different communities.

11           MR. RIVERA: From -- again, I think it will  
12 be user and performance base. So from a fire  
13 perspective, yes, we would need to meet NFPA 1981  
14 requirements. And then if the new 1981 capture all  
15 other users, LE community and others, still, though,  
16 those new special operations type of requirements that  
17 we have identified and that we use with our current  
18 APR, PAPER, and NSCBA combination unit, we would want  
19 to retain those and meet the NFPA standard.

20           MR. SZALAJDA: Do we have any comments from  
21 the audience here in Pittsburgh on this topic?

22           You're all ready for lunch.

1 Any comments from LiveMeeting?

2 MR. PERROTTE: Let me on --

3 MR. SZALAJDA: Okay.

4 Okay. Do we have any comments from  
5 LiveMeeting participants about the use of NFPA 1981?

6 MR. SPELCE: This is Dave Spelce, Navy and  
7 Marine Corps Public Health Center. I don't have a  
8 comment on that. But would it be appropriate to make  
9 a comment on the nomenclature of the CBRN Combination  
10 Respirator Unit?

11 MR. SZALAJDA: Go ahead.

12 MR. SPELCE: Just recommend dropping the  
13 word "unit" and call them "NIOSH CBRN combination  
14 respirators." By analogy, Combination Supplied Air  
15 SCBA respirators are not called Combination Supplied  
16 Air SCBA Respirator Units.

17 MR. SZALAJDA: Thank you, Dave.

18 MR. SPELCE: Thank you.

19 MR. SZALAJDA: Anything else from  
20 LiveMeeting?

21 Social media?

22 MS. POWELL: No questions.

1 MR. SZALAJDA: No questions. All right.

2 And I think what I'd like to do is, at least  
3 for now, if there are any comments regarding the  
4 combination respirator requirements that you'd like to  
5 address that we haven't covered, if you can bring them  
6 forward now.

7 Okay. And what I'd like to do is, you know,  
8 first, here's your information docket and how you  
9 submit comments with regard to what you've heard. And  
10 then the things that you would like us to consider  
11 with regard to the development of the standard.

12 I'd also like to thank Bill Haskell, Brian  
13 Montgomery, and Chief Rivera for participating in the  
14 panel. And I hope this type of discussion has been  
15 helpful for you, not only from, you know, an industry  
16 perspective, but also a user perspective on needs for  
17 this type of device. And I'd like to thank you all  
18 for your participation and comments.

19 So with that, I'd like to give my panel a  
20 round of applause.

21 I've gotten signs from the back of the room  
22 that the box lunches have arrived. Again, it's cash

1 only, \$12. I believe it's out here in the back. You  
2 also have some options before you get to the terminal  
3 and also the hotel.

4 So what we'll do is we'll break and we'll  
5 reconvene and start promptly at 1:30 with  
6 buddy-breathing. Thank you.

7 (A luncheon break was taken at 12:20 p.m.)

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1 with regard to any of the things that we've talked  
2 about today, and we'll do that right at the end of the  
3 session before we close the meeting.

4           And so with that, I want to provide at least  
5 a little bit of an overview why we're having a  
6 buddy-breathing discussion this afternoon. And from  
7 the standpoint that is not a regulation per se, it is  
8 not something that we address as part of 42 CFR  
9 Part 84. But it is something that my predecessors did  
10 years ago with regard to identifying a policy  
11 regarding the use of this type of technology and the  
12 application to self-contained breathing apparatus.

13           So the format we're going to follow is very  
14 similar to what we did with the combination  
15 respirators. I'm going to have a little bit of an  
16 overview. I'm going to keep my comments brief,  
17 because I'd rather let you hear the perspective from  
18 the people that are interested in the topic.

19           They'll give a presentation with regard to  
20 some of the issues and things that they feel are  
21 pertinent to helping NIOSH relook the policy that's  
22 been in place. Similarly, we'll have a panel



1 discussion. There will be questions to help us lead  
2 the panel discussion, and then we'll also have a  
3 comment period.

4           So my objectives are pretty brief. And  
5 basically this is a reevaluation of a policy that was  
6 developed in 1984. In going back and looking at some  
7 of the history, you know, at the benefit of granted it  
8 is 26 years ago, and I was a happy young person at the  
9 Aberdeen Proving Ground, you know, working on DECON  
10 and didn't even know NIOSH existed when this policy  
11 was put in place. But there was a process that NIOSH  
12 had gone through at that time.

13           And there is some limited documentation that  
14 we had in our archives where, in the June time frame  
15 of 1984, NIOSH went out and sought opinion from  
16 stakeholders through a letter to interested parties on  
17 the topic of buddy-breathing of, you know, the  
18 potential being able to share air between systems.

19           I don't know -- could not find a record of  
20 what the responses were to that letter. However,  
21 there was a follow on letter issued in November of  
22 1984, which says this -- that you can't read. But it

1 is in the docket and you can look at the letters that  
2 were transmitted.

3 But basically, in kind of paraphrasing it,  
4 NIOSH's policy that was established is that, you know,  
5 any use of emergency breathing systems or  
6 buddy-breathing type systems would invalidate the  
7 NIOSH approval of those types of devices.

8 And the thing to keep in mind when you look  
9 from a historical perspective with regard to this  
10 topic is I think one of the things that's pertinent to  
11 consider is the evolution and technology.

12 And I've made a comment that, you know, when  
13 you look from a functional standpoint, what's changed  
14 in the last 10, 20, 30 years, there's always been  
15 respirators. But the degree of technological  
16 evolution is readily apparent in what you see in the  
17 different products that, you know, an SCBA of 1980 is  
18 not the SCBA of 2010, you know, that we have  
19 marketed -- you know, we have moved the bar forward  
20 with regard to the capabilities of the respirators.

21 So we're going to be looking, you know, for  
22 input from our stakeholders with regard to these

1 topics. And these will be what we use to facilitate  
2 our discussion when we have the panel discussion later  
3 on this afternoon.

4 Well, at least a little bit of a background  
5 and I think it's kind of unique, at least, with regard  
6 to how we're going to broach our support presentations  
7 today.

8 Dan Rossos, who you had heard this morning  
9 from Portland Fire, is going to introduce the topic to  
10 us this afternoon from the NFPA perspective. And they  
11 raised concern -- Dan raised a concern to Les Boord,  
12 who's the TCC Chairman for NFPA, on the subject  
13 because there were several issues which, you know,  
14 basically focused around including requirements,  
15 performance requirement and fire service standards  
16 would result in the use of noncompliant equipment.

17 And that was a concern for Dan, and that was  
18 shared through the NFPA channels. And it came to us,  
19 you know, at least with regard to looking at the  
20 policy; is the policy still valid, you know, at least  
21 with regard to how this type of device may be used in  
22 the work place today.

1           There's varying positions on the topic. And  
2 again, I don't want to spend a lot of time on this,  
3 because if you go and look at the information that's  
4 in the docket, these next couple of slides are  
5 captured there. But the OSHA regulation for the Fire  
6 Brigade Standard says, you know, we don't care what  
7 NIOSH says. You know, if you need to use  
8 buddy-breathing, do buddy-breathing. Now, they don't  
9 necessarily say we don't care what NIOSH says. But it  
10 does open the avenue for the use of this type of  
11 technology.

12           Now, however, though, even within the NFPA  
13 standard, there are concerns, different -- in the NFPA  
14 standards, there are concerns that are raised with  
15 regard to buddy-breathing operations, primarily in  
16 relation to, you know, putting individuals at  
17 jeopardy.

18           And I think basically if you go back and you  
19 look at it from the NIOSH perspective, I can only  
20 hypothesize that that's probably the concern that the  
21 NIOSH staff felt at the time is that by doing this you  
22 potentially not only risk the individual that needs

1 help, you also risk the individual that's trying to  
2 provide help.

3 And again, additional topics. There are  
4 additional comments from the NFPA standard with regard  
5 to concerns over the potential for buddy-breathing.

6 I did want to mention going forward that  
7 this has been very unique for me from, you know,  
8 having done this for several years now in establishing  
9 the docket that with this particular topic, this is  
10 the first time we ever had docket submittals prior to  
11 having a public meeting, at least with regard to the  
12 things for us to consider.

13 And we've had 10 comments to the docket  
14 already from the fire service. Six were against  
15 buddy-breathing that they said, "We think NIOSH and  
16 NFPA got it right." And the others are saying, "Well,  
17 you know, this is something that should be seriously  
18 considered as a way to, you know, help individuals  
19 that are in distress."

20 So again, as we go forward with this, the  
21 presentations that you're going to hear here in the  
22 next couple of minutes will be available on line as

1 well as ultimately all -- as the docket office gets  
2 the comments, those comments are posted as well. And  
3 you can go and review those if you so desire.

4 So with that, what I would like to do -- Dan  
5 Rossos --

6 John, you'll have to take the LiveMeeting --  
7 or put the LiveMeeting back on.

8 Okay. I think what I wanted to do is  
9 introduce Dan Rossos from Portland, and he was going  
10 to provide an overview from the Respiratory Protection  
11 Technical Committee perspective and the need to  
12 address this. And then these individuals to my  
13 left -- Clint Kaller, William Flint, and Deborah  
14 Crisher -- will be providing different perspectives on  
15 buddy-breathing and information for us to consider  
16 with the deliberations.

17 What I'd like to do is let them go forward,  
18 go through their presentation. We'll take a break.  
19 They brought in hardware, which they'll talk about,  
20 that's up here on the table in front of us. And  
21 during the break, you'll have an opportunity to look  
22 at the hardware and have interaction with them. And

1 then also as part of the panel discussion, we may want  
2 to illustrate some points, you know, associated with  
3 the hardware that's available.

4 So with that, Dan, if you're on line, I'd  
5 like you to go ahead and introduce the topic.

6 MR. ROSSOS: Thank you very much, Jon.

7 Yes. My name is Dan Rossos. I appreciate  
8 the opportunity to be here today. And you know, I  
9 guess I need to say I appreciate the fact that we are  
10 where we're at regarding this issues. This has been  
11 an issue that has been a battle for me, and I am just  
12 so -- (inaudible) -- that we're at the place we're at  
13 and we're going to deal with it.

14 This initially -- and first, I have to say  
15 that my point here is basically to walk us through a  
16 little bit of the history of it, and Jon's already  
17 done that to some degree. But I wanted to bring us  
18 from where this initiated, where we came up initially  
19 with this as a conflict and to where we're at today.

20 So to bring us backwards a little bit. Back  
21 about 1980, 1999 when we were working in the 1981  
22 standard for 2002, we had written a proposal basically

1 for a device or a fitting that would be a part of the  
2 SCBA that would allow us to deliver high pressure air  
3 from an outside source to a down firefighter or a  
4 firefighter in need of air. Ultimately that has come  
5 to be known the RIC UAC.

6 I was quite surprised at the reaction I had  
7 when I made that proposal back at that time. Quite a  
8 passionate argument developed regarding the conflict  
9 between what I was proposing as this RIC UAC and the  
10 similarity or the misuse, I guess, if you will, or the  
11 potential misuse of it as a buddy-breather.

12 Quite honestly, at the time I didn't know  
13 there was a problem with buddy-breathing. I'd been on  
14 the fire service for about 20 years at that time. And  
15 I didn't know there was an issue. But it became such  
16 an issue that, in fact, part of the preamble for 1981  
17 for the 2002 edition was added in this, so it made it  
18 very, very clear. And if you don't mind, I'll just  
19 read it very, very briefly.

20 If the RIC UAC does not take breathing air  
21 from the SCBA being worn by a member of the rescue  
22 operation, but replenishes the victim's air, a



1 victim's breathing air cylinder from a source of  
2 rescue breathing; that is a rescue breathing air  
3 cylinder, a high pressure breathing air supply line.

4           The RIC UAC is not a buddy-breathing device.  
5 It does not permit the sharing of a single SCBA  
6 breathing air source between two persons. NIOSH does  
7 not permit or certify any buddy-breathing system that  
8 allows two users to share a single breathing air  
9 source. Because NFPA 1981 requires NIOSH  
10 certification as a prerequisite to become certified as  
11 compliant with NFPA 1981. NFPA cannot submit  
12 buddy-breathing systems, which would be in violation  
13 of NIOSH regulation.

14           At the time, I remember thinking this is a  
15 pretty big deal. This buddy-breathing thing is a  
16 pretty big deal regarding NIOSH and regarding the  
17 relationship with NFPA.

18           And clearly, this statement made in the  
19 preamble made a clear line in the sand that we were  
20 not going to cross that. In my mind as a firefighter,  
21 I realize this is going on all the time. And I didn't  
22 quite understand that it was a -- at the time kind of

1 "wink wink" type of thing. I just thought it was a  
2 straight-up deal. But this made it clear to me that  
3 there was a conflict.

4 I went back then. I started researching --  
5 Jon, as you brought up -- and I made it known to the  
6 committee the letter, as you stated, in November 6th  
7 of 1984. And I found that in the archives, because I  
8 was trying to figure out when did this occur and why  
9 did it occur. And as you clearly stated --

10 You're still there, Jon?

11 MR. SZALAJDA: Yeah. We're still here, Dan.  
12 I guess there was some feedback in the system  
13 somewhere. But you're okay now.

14 MR. ROSSOS: Okey-doke.

15 As I said, I went back in the archives to  
16 find out what the cause was and what the real  
17 prohibition was. And as you mentioned, it was in  
18 November 6th of 1984.

19 And without reading this whole letter, it  
20 made it very, very clear that what NIOSH was talking  
21 about at the time was component connections,  
22 interfaces, assemblies in combination.

1           So it made it very, very clear that it was  
2 making sure that there was nothing we could have on  
3 the SCBA that would allow one SCBA to be used with  
4 another SCBA, for the intent of supplying air and  
5 approach your buddy-breather.

6           So that made it very, very clear that, in  
7 fact, NIOSH had prohibited this method or device from  
8 interfacing. So that made it clear why the preamble  
9 was developed and why the passionate argument was made  
10 back in '99, 2000 regarding a RIC UAC.

11           I then found, as you mentioned, Jon, the  
12 OSHA issue, and that was on OSHA 1910.156(f)(1)(iii),  
13 where it basically says, "Approved self-contained  
14 breathing apparatus may be equipped with either a  
15 buddy-breathing device or a quick disconnect valve,  
16 even if these devices are not certified by NIOSH."

17           Well, I thought my goodness; OSHA is clearly  
18 making a statement in full knowledge of the  
19 prohibition that NIOSH had come up with in 1984.

20           The issue that really became, I guess, the  
21 crux that made me have to bring this thing forward was  
22 that 1500 -- and I know you have some 1500 people

1 there -- identify our SCAM Document 1852, Selection,  
2 Care, and Maintenance for SCBAs as the tool that we  
3 use, as the document and standard that we used to  
4 basically regulate the maintenance, selection and care  
5 of our SCBA.

6           And in that standard it says, in 4.3.8, "The  
7 organization shall require that all members who use  
8 SCBAs are responsible for any part of the  
9 organization's respiratory protection program are  
10 informed and trained not to make any alterations or  
11 changes to any SCBA's original condition that causes  
12 the NIOSH certification of the respirator to lose its  
13 certification."

14           And so clearly, at least on that end, we had  
15 a conflict, it appeared to me, between OSHA and NIOSH  
16 between the fact that if we used our buddy-breathers,  
17 if we have them, we were in violation of 1852.

18           And I guess more importantly, we were  
19 holding up a standard that we were saying we need you  
20 to embrace and look at as a serious standard to govern  
21 how you use your SCBAs and we had such a conflict.

22           As a moral issue, I became concerned,

1 because if NIOSH was aware in their prohibition of  
2 circumstances or technological disadvantages that  
3 perhaps could end -- resulting with a firefighter's  
4 death, then certainly the prohibition was a serious  
5 issue, and we needed to uphold it.

6 But the fact that we were using  
7 buddy-breathers every day around the country, and it  
8 seemed like we were aware of that, NFPA-wise and  
9 NIOSH-wise, but we're living kind of in both of these  
10 worlds. And then on the flip side of it, when you  
11 heard that dull situation from around the department  
12 that said if we don't have these buddy-breather, we're  
13 going to kill firefighters every day, it really became  
14 a moral issue at that point in my mind.

15 I wanted to bring this forward. I brought  
16 it, as you said, to Les Boord who chaired the TCC.  
17 And I was trying at the time to inquire as to NIOSH's  
18 original prohibition; was it technological in nature  
19 or was it behavioral in nature? Because certainly if  
20 it was behavioral, I don't know that there's anything  
21 we can do technologically to effect the change. But  
22 if it was technological in nature, as you said, Jon,

1 we've had almost 30 years from that time and perhaps  
2 we were in a position to be able to make some  
3 technological changes that would have, I guess,  
4 addressed those issues that NIOSH had back in '84.

5 My understanding is that it was a  
6 technological issue. So at that point in time as  
7 Chair of the Respiratory Protection Committee in 1981,  
8 I formed a task group. And the initial task for that  
9 task group was to go back as a unit, work and come up  
10 with a recommendation to the full committee 1981,  
11 recommendation that we, as a committee, were going to  
12 pursue the advancement of buddy-breathing  
13 technologically and to work with NIOSH to figure out  
14 exactly how to do that. Or we were, as a committee,  
15 going to say we were not going to embrace  
16 buddy-breathing and that we felt that it was something  
17 we did not want to enter into.

18 Conclusion and the recommendation for that  
19 task group to the full committee was that they  
20 recommended that we pursue it as a technological issue  
21 and to review and open the door with NIOSH to review  
22 the original prohibitions and see if by chance

1 technological changes would now address those issues  
2 they had.

3           And so that's where we are right now.  
4 That's, I guess, maybe a somewhat long-winded brief  
5 explanation of the history as to where we're at and  
6 how we got there. And where we are today is exactly  
7 where we're at. You have opened it up for us to  
8 review this and you've brought it forward. And we get  
9 the opportunity for now the task group members to be  
10 able to share what they've compiled.

11           Are there any questions?

12           MR. SZALAJDA: There appear to be no  
13 questions right now, Dan. Thank you for that  
14 introduction.

15           MR. ROSSOS: You are welcome.

16           MR. SZALAJDA: And what I would like to do  
17 is introduce Clint Kaller, and he's going to initiate  
18 the working group's discussion of the subject.

19           MR. NEWCOMB: Jon -- Jon, can you hear me?

20           MR. SZALAJDA: Yes, sir.

21           MR. NEWCOMB: This is Bill Newcomb.

22           I would like to elaborate a little bit on

1 the background of this, since I was intimately  
2 involved in it at the time.

3 MR. SZALAJDA: Sure. Go ahead.

4 MR. NEWCOMB: In the 80s or in the late 70s,  
5 buddy-breathing was very acceptable in Europe, and  
6 there were a lot of units that had buddy-breathing  
7 connections on them. In the early 80s, about 1984 to  
8 be exact, I submitted a series of respirators SCBAs to  
9 NIOSH for approval that had the buddy-breathing  
10 connections on them.

11 Technologically, there was no problem with  
12 them. You could have two people breathing off these  
13 buddy-breathers, one with the self-contained and the  
14 other plugged into the buddy-breather connection, and  
15 they would both meet the breathing requirements. So  
16 it wasn't a technological thing. And it had been done  
17 in Europe, and OSHA allowed it.

18 The NIOSH prohibition was based on the fact  
19 that when two people get together and are plugged into  
20 the same unit, in a situation where there's a panic,  
21 they could very well go in opposite directions and end  
22 up pulling the facepiece off one person or things such



1 as that. And also the fact that now you don't have  
2 the air because you are splitted in two. And if you  
3 had a 30-minute unit to begin with and you had to use  
4 half of it, that doesn't give you a heck of a lot of  
5 air left.

6 So the prohibition was based on NIOSH's  
7 feeling that the use could endanger the users, not on  
8 a technological limit of the ability of a SCBA to  
9 supply air to two users at once.

10 The SCBA were approved with the  
11 buddy-breather attachment on them by NIOSH, but not  
12 for use for buddy-breathing. So the SCBA with the  
13 attachment was NIOSH approved, but it was not NIOSH  
14 approved for buddy-breathing. That was a prohibition  
15 that was put on the use of it, and it was put in the  
16 manufacturer's instructions. So, but it allowed the  
17 people that were looking at being compliant with OSHA,  
18 and having disallowed, to make a choice on their own  
19 as to whether or not they would allow it in use.

20 So I guess that I have a slightly different  
21 perspective on it and hopefully can spark some more  
22 interest in the discussion. Thank you.

1           MR. SZALAJDA: Thank you, Bill. I think  
2 that was very timely. And I think given Dan's  
3 introduction to the subject on the issue of behavioral  
4 or technological evolution, I think that's very  
5 pertinent. So thanks for the contribution.

6           Anything else from the LiveMeeting?

7           Okay. I think we will go ahead and let  
8 Clint Kaller begin the presentation.

9           MR. KALLER: Well, I hope after hearing both  
10 of those comments we're going to kind of show that  
11 technology may be able to take us past both of the  
12 things that were discussed here, even though -- it was  
13 Don, correct, the second gentleman?

14          MR. SZALAJDA: Bill.

15          MR. KALLER: -- Bill said that, you know,  
16 they felt that emotions in firefighters' ability to  
17 function together when the chips are down created a  
18 problem, for NIOSH to look at that. I think what  
19 you're going to see with what's offered today is  
20 technology will solve that because these things are  
21 not hooked to the facepiece anymore. So you're not  
22 going to be dislodging anything that's going to take

1 anybody into IDHL. So hopefully we'll solve, you  
2 know, the things that were talked about with both  
3 those comments.

4 Like Dan introduced, we are part of the task  
5 group with NFPA that was put together to address this  
6 issue. And I have worked on it for quite a while now.  
7 And we're going to go through -- you know, I'll go  
8 rather quickly through some of the things we talked  
9 about. But just like Dan talked about, the 1984  
10 letter and the points he brought up -- and there have  
11 been significant changes in technology, which is what  
12 we looked at heavily when we said, hey, we think this  
13 can be readdressed. We think we have a case that  
14 NIOSH is going to look at this and say, okay, we can  
15 see that since 1984 things have changed enough that  
16 it's worth reopening and letting the public have a say  
17 in this and looking at the actual technology that's  
18 available.

19 In 1984 -- and like you said we do have some  
20 demos up here -- everything back then, more or less,  
21 was hooked to the facepiece with the sharing of the  
22 facepiece being one of them, which nobody here, I

1 think, is going to say sharing a facepiece and passing  
2 it back and forth and using a bypass valve is going to  
3 work with it during an IDLH.

4           There have even been some incidents that  
5 have not been that long ago where that was done by a  
6 fire department, and it did not work out and they  
7 ended up with fatalities. Because passing that  
8 facepiece back and forth, as was done years ago, is  
9 just -- it's not a good idea no matter how you look at  
10 it.

11           One manufacturer way back when did have a  
12 buddy-breathing pigtail that they used and plugged in  
13 that -- but it required, you know, the fact that IDHL  
14 could become involved and it's nothing close to the  
15 technology of today. And with the technologies out  
16 there today, there's really no risk of IDLH being  
17 involved when you're making this transition into  
18 buddy-breathing and the way the equipment is designed.

19           All these things that I didn't know I put in  
20 here --

21           Current technology today is pretty simple  
22 and basic across the board. I mean, they're not all

1 identical and I have some pictures for you. But  
2 generally speaking, there's a 36-inch hose coming off  
3 the intermediate pressure side of the regulator. So  
4 it's not like a UAC where it's on the high pressure  
5 end. It's on the intermediate pressure side, and it's  
6 hooked to a male and female, usually through a Y block  
7 type assembly. Those two things can be hooked  
8 together either male to female or female to male. It  
9 doesn't matter and that connects the two individuals  
10 together for buddy-breathing.

11 No hoses are connected to the facepiece. So  
12 even at 72 inches of distance if those people are  
13 tugging on each other or they're trying to crawl in a  
14 row or whatever, they can still do that and feel force  
15 on the thing. But it's not dislodging anything that's  
16 going to allow IDLH to get involved. Because it's all  
17 connected to the backpack. It's not connected to the  
18 facepiece to create the problem that was discussed  
19 earlier.

20 Here are some pictures of the different  
21 manufacturers, and I don't have all of them here -- I  
22 apologize -- but I pulled up some. And you can see

1 even though they're different, they're basically all  
2 the same. There's a Y block of some type. There's a  
3 male and female for each one and there's a protection  
4 cap for each one.

5           So these connections are not interchangeable  
6 among manufacturers, but obviously a department that  
7 is all in one SCBA, it does matter what connections  
8 you have; two firefighters there, they both have a  
9 male and female. As long as they can get one of those  
10 two together on either end, the system is hooked up.

11           And then 36 inches is a relative number.  
12 Some of them may not be 36. They might be 34. But  
13 also that's something that could be addressed in 1981,  
14 how long do we want that hose to be to allow freedom  
15 of movement with things to where we're not creating an  
16 issue between two people tugging on each other.

17           The difference between buddy-breathing a/k/a  
18 EBSS, Emergency Breathing Safety System, we kind of  
19 looked at that and thought buddy-breathing didn't tell  
20 the whole portion, plus we're a little leery of the  
21 fact that buddy-breathing kind of has a negative  
22 connotation to it because of the way it's been

1 addressed over the years; and it's in, it's out, we  
2 don't like it. There's all these problems so, you  
3 know, we're trying to learn to use another term here.

4 With EBSS, it's a connection that's sharing  
5 air at the intermediate pressure side. It is not a  
6 rapid transfill as with the UAC connection.

7 Once the connection with a UAC is made,  
8 there is rapid equalization between the two cylinders,  
9 whatever they have. One manufacturer offers a couple  
10 of locations that you can plug in. I want -- I'm not  
11 positive. I want to say they actually have an item  
12 you could get that you could actually pull a UAC  
13 female connection and hook into the male and transfer  
14 two people, even though they talked about it and said,  
15 yep, that's a no-no. The way it was written, it could  
16 be done.

17 But once it's done, you hook in. There's a  
18 transfill off of a RIT bag or something and the deed  
19 is done. There's no going back or changing it.  
20 There's no recouping that air back to the opposite  
21 direction. And the key thing here is it has to be  
22 coming in off of a RIT bag. It's not attached to the

1 BA. It's not already in the building. It's not one  
2 of the other fellow firefighters in there that could  
3 help the guy out. It's outside of the building. It's  
4 part of a RIC Team. It's a ways away.

5 On the other hand, an EBSS system you can  
6 plug the thing. You can breath on it. There is no  
7 equalization. One of the advantages -- and you got  
8 to remember we're talking about incidents that rarely  
9 happen are malfunctions of SCBAs that really rarely  
10 happen. But if the problem with the SCBA was at the  
11 first stage regulator, flow supply, or a leaking valve  
12 or something like that, a UAC becomes of no  
13 importance, because you're refilling an air cylinder  
14 that's going to blow the air right back out if it's a  
15 leak or doesn't allow it to get past the first stage  
16 regulator anyways. So you're giving a guy air he  
17 can't use.

18 On the other hand, EBSS is downstream of  
19 that. It's on the intermediate pressure side. So  
20 however insignificant it is or possible, it was a  
21 first stage regulator problem. EBSS works beyond that  
22 problem. It works on the far side of that system.



1           The other thing is, is with this system  
2 because there's no transfer of air, if the situation  
3 changes, you can release from that guy. You were not  
4 permanently hooked into him or you haven't given him  
5 something you can't take back, more or less. You're  
6 not giving him half of everything you own. You're  
7 working with him at the time. And if the situation  
8 changes, you can release from that guy if you have to.  
9 It's just an option.

10           I've listed some scenarios and like, you  
11 know, I hate to say it -- and it's a good thing for  
12 the firefighting end -- these situations don't come up  
13 too often fortunately.

14           One of them is, you know, if you're in a  
15 large warehouse and the guy simply exhausts air, gets  
16 off line, is lost in the thing, another guy can locate  
17 him. And if he's still ambulatory, plug in and walk  
18 him out, and that is the simplest of scenarios where  
19 the guy is still able to help himself once you help  
20 him with his air supply. And it's not going to get  
21 any easier than that probably.

22           A situation where a firefighter has become

1 entangled with something and now we can't get him out  
2 or he's been injured or whatever. The thing I like  
3 about this system is if his pals are there to help  
4 him, they can plug into him, assist him, and help with  
5 Mayday and get everything going. They can supply him  
6 air while they're waiting for RIC to get here.  
7 Otherwise, he's just there and he's got whatever he's  
8 got and it's good luck to him. You can supply him  
9 with air and calm him down and let RIC come in to do  
10 their job.

11           And I look at part of EBSS as I'm not taking  
12 anything away from the UAC fitting, but RIC is a ways  
13 out and this is there. Everybody in the building has  
14 the option of putting this into service if the  
15 situation warrants. It's already in there on  
16 everybody's SCBA.

17           Last time -- I list in here the travel time  
18 is extensive for tunnel fires and stuff like that.  
19 And this is something I don't think a lot of people  
20 have thought about.

21           If you're taken and you're going with four  
22 guys to a 7th floor and you're in smoky stairwell and

1 humped up the floors, by the time you get to the 7th  
2 floor landing, you don't have a full cylinder. You'll  
3 be lucky if you have half.

4 Normally for us, or I think most  
5 departments, if you're doing that, when you're humping  
6 the stairs, you're taking spare cylinders with you.  
7 If you get up there by using this system, you can take  
8 and plug one guy into the other, turn his cylinder  
9 off, pull the cylinder out, put a brand new one in,  
10 plug him all back in, turn him on. And by rotating  
11 the use of EBSS, change everybody to a fresh cylinder  
12 with never being an IDLH.

13 They didn't have to take off their  
14 facepiece. They didn't have to give it the  
15 (demonstrating) swap quick. I'm holding my breath,  
16 none of that stuff. You plug in. The cylinder swap  
17 can be made, because you're above the first stage  
18 regulator. Everybody can get new cylinders that they  
19 brought with them. Now you're standing on that  
20 landing with a fresh cylinder and never been in an  
21 IDLH environment.

22 So it's an option that it gives you to

1 extend. And that's not just high rise. You could do  
2 it in tunnels or anyplace else where you think you're  
3 going to be extended, that it gives you a chance to  
4 swap and get more air in without having to go into  
5 IDLH.

6           Rapid intervention -- since I've kind of  
7 picked on them. This is a study that was done after  
8 Phoenix had a fatality. They ran multiple RIT drills.  
9 They used, I thought, realistic scenarios in a movie  
10 theatre in a country-western bar and a warehouse.

11           Their scenario was pretty much the same  
12 where they had two guys down, off the end of a hose  
13 line. In their whole report, they actually talk about  
14 that the guy was only 40 foot off the end of the hose  
15 line when they planted him to keep running the RIT  
16 drills. So they were consistently the same where you  
17 can follow the hose, but the guy is off the hose line  
18 and now you got to go find him.

19           It says here the university -- or Arizona  
20 State University did the statistical analysis in  
21 looking at the times. And I'm not going to read them  
22 all to you. But when you look at those numbers, RIT

1 is not rapid. Great mnemonic. I'm sure there's cases  
2 where people were substantially faster than this. But  
3 this is a pretty extensive training drill with, you  
4 know, 1,144 people involved over 200 drills. And this  
5 is the average times they came up with.

6           You know, we're talking about air cylinder  
7 life. If this guy goes into "I need help" mode and  
8 Maydays, he better have three-quarters of a cylinder  
9 to make 21 minutes waiting for RIC to get there, you  
10 know, or to get there and start helping him.

11           I just don't think that we have that much  
12 air left when things start going bad. And that's why  
13 I think a UAC is a valuable tool, because you plug  
14 into that guy and maintain his position and maintain  
15 some air for him while you're waiting for the people  
16 with the -- I won't say unlimited, but larger quantity  
17 of air and the tools to come in to help extricate the  
18 person. Because one of the things I didn't write down  
19 here is, you know, the two in/two out -- typically  
20 they said you're looking at 8 to 12 people to make a  
21 legitimate rescue. It takes a lot of folks to move  
22 somebody out of a building, because it's not always

1 ideal conditions.

2           So I see it as a valuable tool, not only  
3 just for the guy that, hey, you're lost; let me plug  
4 in and we can walk you out, but as a way to buy time.  
5 And if it's another crew that's found this guy, that  
6 crew may be able to rotate through their guys to where  
7 you're not just plugging one guy in and letting him  
8 bleed down. He's getting a little bit of air from  
9 that guy. You're swapping people. And out of a  
10 three-man engine, say, all three guys are giving him a  
11 little bit of air without endangering themselves, but  
12 allowing him to have the time for RIT to get there and  
13 help him out.

14           When we were looking at all this stuff and  
15 trying to gather up documentation to go to, you know,  
16 the task group, take it to this full committee and  
17 talk about it, there's limited, limited information  
18 you can glean from any place on the Internet about use  
19 of this.

20           People are reluctant to talk about it, even  
21 if they've used it successfully, because it's  
22 so-called, hey, you're not supposed to have this.

1 You're, you know, voiding your NIOSH and NFPA  
2 certification on your SCBA. So even if they've used  
3 it, it's not like it's going into a report that  
4 they're, you know, bragging about; hey, this worked  
5 out great. They don't want to talk about it.

6 We did go through a tremendous amount of  
7 NIOSH and NFPA fatality investigations. And like I  
8 said, you're trying to read between the lines on what  
9 was going on in some of those to try to compare it to  
10 this.

11 Not having, you know, been involved with a  
12 NIOSH investigation, I look at this and what I glean  
13 out of it -- and you may disagree -- is if there were  
14 fatalities happening out there where EBSS was being  
15 used and it contributed to two fatalities, I have a  
16 hard time believing NIOSH isn't seeing that somehow.

17 The department might try to hide it or not  
18 talk about it. But in the terms of the full  
19 investigation, that the investigators aren't going to  
20 have some inkling that these guys were connected  
21 together?

22 Don't know. I've never been involved in one

1 of the -- you know, but I have to believe they're  
2 looking at all angles of this. And somehow if that BA  
3 was, you know, listed there and they look at that EBSS  
4 that supposedly wasn't used and it's full of grime,  
5 even though it's back in the package, how are they not  
6 saying, uh, you know there's something up here?

7           Either way we could not find much, anyway,  
8 anyhow on any of these investigations we read through  
9 that we felt this was involved one way or another.

10           The task group survey did receive some  
11 positive comments on EBSS development, and we did talk  
12 to some people on the grounds of, hey, if you talk to  
13 us, you know, we're going to keep this in  
14 confidentiality.

15           And in trying to follow up there, I used the  
16 word "unwilling." That's maybe not the best word.  
17 But again, even though we're telling you we're not  
18 going to let this information out, people are very  
19 reluctant to talk to us and give us the full story of  
20 how their event went.

21           So when it came to gathering up information  
22 about this product and the fact that it's been used,



1 it was really hard to pull stuff out to bring to the  
2 committee and go, well, here's what we found. Because  
3 it's just not out there to look at documentation-wise.

4 With that, I'm going to introduce at this  
5 time, she's Deborah Crisher. They actually had an  
6 event within their city, and she's got a slide program  
7 that will kind of take you through that.

8 MS. CRISHER: All right. Thank you, Clint.

9 Thank you for allowing me to speak this  
10 afternoon. I'm happy to be here. I'm with the  
11 Virginia Beach Fire Department. We are a medium-sized  
12 department. And the event I'm going to share with you  
13 today is called the Allied Technology Fire, which was  
14 a very large warehouse fire, very unusual for us to  
15 fight that kind of fire.

16 Typically, we're a bedroom community.  
17 Typically we're, you know, maybe town homes and  
18 single-family homes is the type of fire we're used to  
19 fighting. However, on this day it was a little bit  
20 different, so we had an event.

21 We had a Mayday called. We actually had two  
22 called that day. But this one is about one specific

1 Mayday. And we had a positive outcome during that  
2 Mayday event for a firefighter in crisis. And  
3 Mr. Szalajda provided me a perfect segue into this  
4 PowerPoint presentation when he said this morning that  
5 it typically is tragedy that makes regulations and  
6 laws.

7 Well, we kind of had an anomaly to that  
8 fact, in that we prevented a tragedy with equipment  
9 that is not currently regulated. So a very  
10 interesting set of circumstances there.

11 Okay. "Mayday! Mayday! Mayday!" are  
12 perhaps the three scariest words any firefighter can  
13 hear on a fire ground. Whether you're the Incident  
14 Commander or whether you're the rookie firefighter,  
15 you know that there is someone in dire need right now,  
16 someone who immediately needs help and assistance,  
17 someone who could be dying within seconds, within  
18 minutes. We don't want to hear those words. Nobody  
19 wants to hear those words, and it kind of brings ice  
20 to our veins when we do hear them.

21 Well, we heard it that day at the Allied  
22 Technology fire. It happened on March 10th in 2008.

1 It was a beautiful spring day. Trees were blooming,  
2 everything -- the weather was about 60 degrees.

3 (Pause.)

4 MS. CRISHER: Okay. Thank you. I'm  
5 technology disadvantaged here.

6 All right. On March 10, 2008, 11:31 a.m.,  
7 we had a fire. It originally came in as pallets on  
8 fire and then -- it was called in by an alarm company.  
9 And we get typical alarm, sends one engine. Because  
10 it was just called in by an alarm company. But en  
11 route, they said that somebody called and said they  
12 had pallets on fire in the warehouse. So the first  
13 engine then went ahead and called the full structure,  
14 and the units started responding that way.  
15 Ultimately, this was upgraded to three alarms, 46 fire  
16 apparatus were included and 116 personnel. It went in  
17 well into the evening.

18 Allied Technology is a commercial structure  
19 of approximately 139,000 square feet. It's a  
20 corrugated aluminum structure on a concrete slab.  
21 Just to give you an idea of what it looks like, where  
22 it says "Allied Technology Warehouse," we're looking

1 at almost 43,000 square feet of warehouse alone.

2 In the front of that building were some  
3 offices. It was a little bit of warehouse storage  
4 space behind them, and Bill's Flea Market was  
5 connected to it. The Bingo and the Fabrics really  
6 weren't involved, as they had a little bit of distance  
7 between them.

8 But just to give you an idea of how big it  
9 actually was, there's an aerial view of the building  
10 itself. And an even better idea, you can see the  
11 engine there right in front of it, how small it is,  
12 and the whole warehouse part of that. That's how much  
13 area that our firefighters were dealing with that day.

14 And the smoke conditions that they were  
15 dealing with as well -- and that's where it comes into  
16 play a lot. A lot of times when people think about  
17 firefighting and whatnot, they see the Hollywood  
18 version of firefighting, when it's like everything is  
19 all lit up. There's bright orange glow and they just  
20 go in and put out the fire. There's no smoke or  
21 anything, when generally that's not the case.

22 Generally, it looks like this. You cannot

1 see your hand in front of your face. If you have a  
2 flashlight, it's typically reflected right back onto  
3 you. So they're going in there virtually blind. And  
4 I was hoping the pictures of these smoke conditions  
5 would give you an idea of what our firefighters were  
6 dealing with inside.

7 Not only do we have heavy smoke issues, we  
8 had access issues. The whole warehouse was completely  
9 filled with rack shelving almost to the ceiling. All  
10 the shelves were full. In addition to that, the  
11 people who were there had some excess materials that  
12 they stored along the aisle ways.

13 So now picture this. You're in that  
14 completely blind environment, trying to locate a fire  
15 and you're trying to work around all of this equipment  
16 and everything. So that gives you an idea of what  
17 they were dealing with.

18 Now, the actual Mayday itself. Picture  
19 yourself going into this warehouse trying to locate  
20 the fire, and this is what you see, carrying a hose  
21 behind you or whatever.

22 The crew that ended up calling the Mayday

1 was a three-person crew on Engine 32. Engine 16's  
2 crew had already been inside. The air supply was  
3 deleted, so they were coming out for a bottle change.  
4 Engine 32's crew was sent inside to relieve them.  
5 There was a hose line already extended into the  
6 building and the smoke was very dense. Approximately  
7 one hour -- one hour into the incident at 12:25 a  
8 Mayday was called.

9           Let's see if this is going to work this way,  
10 and it will not. Okay.

11           Now, let me give you a little bit, because  
12 this is kind of hard to hear. What you will hear, the  
13 first words you will hear is the IC giving direction.  
14 And then you'll hear a strange noise. That strange  
15 noise is the firefighter who's in trouble trying to  
16 call a Mayday. Then you hear silence. And I can see  
17 this IC listening to that sound is going, what did I  
18 hear? What was that? Because it gets very, very  
19 quiet. And then a division chief kind of comes in.  
20 He didn't even hear that noise, and he says something,  
21 a little bit more time elapses. Then you hear an  
22 actual Mayday called. And then I'll explain more

1 about it after you listen to it. It is kind of hard  
2 to hear.

3 (Whereupon, an audio tape was played.)

4 MS. CRISHER: Imagine what your heart's  
5 feeling at this moment.

6 Okay. I'm trying to minimize it. Just  
7 minimize it?

8 MR. PERROTTE: Yes. Minimize it, then click  
9 on the line.

10 Ms. CRISHER: Right here?

11 MR. PERROTTE: And then the bottom where you  
12 can type on it. You got it. Just click on that.

13 MS. CRISHER: I apologize. I'm sorry.

14 All right. Pretty chilling stuff there, I  
15 think. If you were actually on that ground, you were  
16 actually that IC and you had absolutely no idea what  
17 was going on inside; what's wrong with these? How  
18 many are involved? I can just imagine my blood would  
19 turn to ice. It's very, very scary to think you my  
20 lose one of your own, and I'm sure that's what was  
21 going through his mind at the time.

22 So what really happened?

1           Engine 32 crew followed a pre-existing line  
2 into the warehouse. The captain left his crew and was  
3 evidently gone for a period of time. After he had  
4 left his crew, he became disoriented. He couldn't  
5 find his way back to his crew. He noticed he was  
6 getting very low on air. There's conflicting reports  
7 about what happened at this time, where he was and  
8 what he was doing and where he was going. But he  
9 eventually found an Interior BC. He advised, I am low  
10 on air. The Interior BC instructed him, get your crew  
11 and get out of the warehouse.

12           He went back to look for his crew. He could  
13 not find his crew. Again, remember the smoke very,  
14 very dense in the air. He couldn't find them. But  
15 they kind of had their eyes and ears on him the whole  
16 time. He did not realize that one of his crew was  
17 right behind him, just several feet and the other was  
18 just to his left, just several feet.

19           At this point, his low air alarm starts  
20 sounding. They witness his disorientation.  
21 Firefighter 2 followed him. They knew his air was  
22 getting low, wondering why he was going deeper into



1 the structure. So the firefighter number 2 followed  
2 him deeper into the structure. Again, the low air  
3 alarm sounded. When the low air alarm finally went  
4 off, the captain attempted to call the Mayday. That's  
5 what you heard in the very beginning of that tape was  
6 him attempting to call a Mayday.

7 They witness him stumbling back and forth  
8 between the pallets. Firefighters 1 and 2 grabbed the  
9 captain, those were their words, and they --  
10 firefighter 2 then successfully called the Mayday.  
11 That's the one you heard. As the Mayday was being  
12 called, the captain's air supply completely ran out.

13 Now, again if any of you have ever  
14 experienced -- this is an awful feeling. We  
15 ineloquently call it "sucking mask," because that's  
16 exactly what you do. The mask sucks tight against  
17 your face. There is nothing for you to breathe. And  
18 if you're not familiar with it, just picture putting a  
19 plastic bag over your face and trying to take a  
20 breath. There is nothing there.

21 So he did the only option that he had at  
22 that moment, he thought. He broke his seal to his

1 mask. So what happens when he breaks the seal to his  
2 mask, he's breathing the IDLH atmosphere now, with all  
3 of it associated risks, hazards, and everything else.

4            Luckily, his two partners are right there  
5 with him. Firefighter 1 attached his buddy-breathing  
6 system. And the Interior Crew met up with the  
7 Interior BC which then lead that crew out of the  
8 building.

9            Both firefighters 1 and 2 agreed the  
10 training they received on "Mayday and the Firefighter  
11 Down" and "Buddy-Breathing" positively effected the  
12 outcome of this situation.

13            We have had -- I'm going to estimate about  
14 1997 is about when we got the buddy-breathing  
15 connections. And we have trained on them. They  
16 trained on them frequently so -- and we also do, which  
17 he spoke of, the Phoenix drills, okay. We do the  
18 Mayday; Firefighter Down drills as well. So these  
19 guys are familiar with what to do. They didn't panic.  
20 They just did what they had been trained to do. He  
21 got air.

22            Now, please keep in mind that we had a RIT

1 team right outside and we did have the RIC connection  
2 as well. But he was out of air at that moment. He's  
3 breaking his seal, breathing the smoke at the same  
4 time the other firefighter is hooking into his  
5 buddy-breathing system.

6 So we had a very good outcome with this.  
7 All the firefighters were released. There was not  
8 injuries. And it caused a lot of retrospection when  
9 they went back to the station; what if. What would  
10 have happened if they hadn't seen him? What would  
11 have happened if they hadn't been able to attach their  
12 air to him? You know, a lot of what ifs.

13 So I wanted to share. That was a positive  
14 outcome to some piece of equipment that does have some  
15 negative connotations. We were very, very lucky that  
16 day. We do not take it for granted that we were very,  
17 very lucky.

18 And does anybody have any questions on --  
19 that I can help with or answer?

20 All right. Thank you very much.

21 AUDIENCE VOICE: Was that tape realtime?

22 MS. CRISHER: Yes, it was.

1           AUDIENCE VOICE: It was compressed. It was  
2 absolutely compressed when the first Mayday began.  
3 There were gaps in times in there.

4           MS. CRISHER: Right. There was just dead  
5 air.

6           AUDIENCE VOICE: Right. But that was  
7 compressed on the tape.

8           MS. CRISHER: Okay.

9           AUDIENCE VOICE: That was about a  
10 three-minute period --

11          MS. CRISHER: Right.

12          AUDIENCE VOICE: -- much less.

13          MS. CRISHER: Oh, yeah. Well, to me, it  
14 seemed like three minutes still. Yeah. It was. It  
15 was about a three-minute period. Exactly right, yes.

16          AUDIENCE VOICE: For that Mayday, there was  
17 no missing -- I think the other crew took three  
18 minutes to find him.

19          MS. CRISHER: His crew was right there with  
20 him when they hooked into the buddy-breathing, and  
21 then they started escorting him back out. In the  
22 meantime, there was another engine crew inside of

1 there, getting ready to come back in. They were not  
2 that deep in the warehouse. But again, the conditions  
3 and the visibility was so bad that they weren't  
4 exactly sure where they were. Well, they had another  
5 crew coming in. The Interior Battalion Chief was  
6 toward the exit as well. He heard the Mayday. He  
7 knew the about location of where that other crew was.  
8 So between the group of them, they were able to escort  
9 them out.

10 Anything else?

11 Thank you very much for your time.

12 I attempted to put that back in and --

13 MR. KALLER: Well, thank you.

14 So in attempt as the task group was putting  
15 stuff together, we came up with a questionnaire about  
16 EBSS and put it out. Because like I said, gathering  
17 information on this thing was tough.

18 So fortunately our task group was pretty  
19 astute onto this and Division Chief William Flint from  
20 D.C. Fire and EMS put together this thing, got it out  
21 over the Internet, got it to a group of people to ask.  
22 So I'm going to let him walk through what we found out

1 from our survey, so-to-speak.

2 MR. FLINT: Good afternoon. I'm William  
3 Flint. I'm Chief of Safety for D.C. Fire and EMS.  
4 I'm involved in a Respiratory Protection Program and  
5 actually on the 1981 Committee as well.

6 As we got the task last spring with  
7 addressing EBSS, we looked around the room -- and I  
8 see many of the same faces from the committee here --  
9 and we asked how many times has EBSS been used. And  
10 we came up with one time, and that was Virginia Beach.  
11 We asked, how many people have tried to use it and  
12 have not done it successfully, and we didn't have an  
13 answer for that. And then we asked, of all the SCBA  
14 that's being purchased now, who's buying it and how  
15 many units are being purchased and what percentage of  
16 departments in the United States use EBSS? So we came  
17 up with an answer to that, and we'll discuss that.

18 Came up with the number of goals within the  
19 task group and came up with just blank answers. We  
20 didn't have a real idea. The manufacturers came up  
21 with a round number. They said about 60 percent of  
22 the SCBA that they shipped over the last couple of

1 years had been shipped with EBSS, of one form or  
2 another, and not the RIC UAC, but a separate EBSS  
3 system.

4 So now we wanted to see how does this  
5 address or how does this work out with the American  
6 fire service. Is it only large departments? Is it  
7 only small departments? Volunteer? Career?

8 Are people getting training on this, or is  
9 it just a piece of equipment that shipped that people  
10 have to figure out on their own? And do individual  
11 departments develop the SOGs to use it properly? And  
12 then whether or not we had anymore reports of  
13 successful or unsuccessful use of EBSS.

14 So rather than call everybody that I know in  
15 the fire service -- all two dozen -- we came up with  
16 an instrument and tried to push this out to a larger  
17 sample of fire departments in the United States.

18 Multiple choice, make it quick and simple.  
19 Give people the opportunity to give us information,  
20 and actually the most interesting part.

21 And then because of the politics of all  
22 this, we had offered an anonymity, so that we weren't

1 going to hold anybody -- we weren't going to publish  
2 their e-mails and their names and addresses for  
3 everyone to see.

4           So we went live in April. Went to a number  
5 of different instruments. There's an e-mail message  
6 board called "The Secret List," where three or four  
7 times a day, sometimes I'll get a message about a  
8 line-of-duty death or a severe injury to a firefighter  
9 in the country. We went to the International  
10 Association of Fire Chiefs and to their Safety and  
11 Health Section, and they put out a series of e-mails  
12 requesting input. And then I'm also a member of the  
13 Fire Department Safety Officers Association with about  
14 10,000 members.

15           So Secret List -- About a hundred thousand  
16 e-mails. IFC was around 15,000 e-mails to individuals  
17 in the fire service and then FDSOA was about 10,000.  
18 Many of these same folks overlap. But we're about a  
19 hundred thousand people that we asked to participate.  
20 Of that, almost 2,000 responses. And those were all  
21 cataloged. And of those, over 600 folks took time out  
22 of their day to give us a comment about EBSS and what



1 they felt about the process.

2           So let's start. I'm not a scientist. I'm  
3 not a statistician. I'm a firefighter. So when we go  
4 out and we ask people to respond voluntarily, I'm told  
5 this is a convenient sample. So we're not going to  
6 make any broader allegations about the National Fire  
7 Service or the fire service in the world. But we're  
8 saying that of the people that responded, these are  
9 folks that wrote back, and this is what their comments  
10 were back.

11           We had problems with terminology. We got  
12 this from the comments that sometimes people were a  
13 bit confused between the difference between EBSS and  
14 RIC UAC connection. And then, of course, whether it  
15 was a regional difference in terminology or an  
16 equipment difference in terminology, people use  
17 proprietary terms that we had a hard time  
18 understanding so --

19           The other part was the reluctance to follow  
20 up. I reached out to about 40 of the people who had  
21 written back to us with stories and asked them to  
22 either elaborate, and many of the folks actually asked

1 their bosses if they could call back. And they were  
2 told that they shouldn't, because of some perceived  
3 liability. So we respected their anonymity here. We  
4 have a couple of comments that we've left in the  
5 survey. But we're absolutely not going to be  
6 releasing e-mails and things like this.

7 So how does this all work out?

8 Forty-two percent career. Twenty-nine  
9 percent volunteer. Twenty-eight percent combination.  
10 That's a pretty good mix of the American fire service.

11 They ran the gambit of individual  
12 responsibility areas within the department. Quite a  
13 few firefighters, quite a few line officers, not as  
14 many SCBA program managers as I would have thought.  
15 But pretty much every job description within the  
16 department.

17 So of the people that wrote back, 2000  
18 people, how many of you use EBSS? And actually  
19 80 percent said they did, about 15 percent said they  
20 didn't, and about 5 percent said they weren't really  
21 sure. So that puts a little bit of an error in the  
22 mix.

1           The size of the department -- And this is  
2 representative of the United States Fire Services as  
3 well. You see that while we do have a big spike in  
4 the departments over 1,000 -- remember, they've got a  
5 lot more people in those departments to write in. We  
6 did have a number of people -- duplicates from one  
7 department who would write in.

8           And then the training in the SOGs -- It's  
9 interesting that many people had had training on it.  
10 But it wasn't consistent training and it wasn't a  
11 hundred percent. If we'd asked the same question, how  
12 many have received training on how to use, you know,  
13 the pump on your fire engine, it would have been a  
14 hundred percent. And these are all focused things  
15 that they're using every day. This is more of an  
16 emergency interpreting, you know, the responses here  
17 that this is more of an emergency piece of equipment.  
18 But they're not using formal training. They're not  
19 actually going through and performing formal training  
20 and developing SOGs for this. This is more of an ease  
21 of use or a confidence of use. Most said that they  
22 would be comfortable using the EBS system.

1           And then, of course, one of those wonderful  
2 questions, do you feel that it's important? So I  
3 think that was pretty close to 90 percent, and that  
4 was consistent from the first week to the last week,  
5 that 90 percent of this convenient sample, this  
6 convenient survey were people writing back, we're all  
7 motivated to say that yes, we felt that is an  
8 important part of the breathing apparatus.

9           So comments -- 244 generally positive.  
10 Eighty-one generally negative. And then quite a few  
11 suggestions. The positive comments were we feel that  
12 it should be a part of the specified piece of the  
13 breathing apparatus, that it shouldn't be an option.  
14 It should have any -- you shouldn't be able to buy an  
15 NFPA certified SCBA without having EBSS on it. And  
16 then about half, 44 percent, said that it should be an  
17 option.

18           Other comments in here -- Some that wrote in  
19 said that they would much prefer to use the low  
20 pressure air, rather than the high pressure air off  
21 the RIC UAC.

22           So now the negative comments -- People feel

1 as though the SCBA is complicated enough; why add on  
2 another layer of complication? You know, funding is  
3 always an issue.

4 Some people haven't really addressed the  
5 need for it. They say that we have other ways of  
6 getting around this system. Some people called out  
7 NIOSH and said, well, we would buy it, but NIOSH says  
8 that we can't.

9 And obviously, you know, it sort of runs up  
10 and down.

11 And now the suggestions -- Within the  
12 committee, we had discussed why we would be going  
13 forward with the specification. So when we go to the  
14 general public, or the fire service in general, we ask  
15 them what comments do you have about EBSS. It was  
16 interesting that many of the comments that we had  
17 within the committee came back up in the comments.

18 Universal fittings was the first and most  
19 common suggestion of all the folks out there.

20 My department, well, we all use one  
21 particular brand of breathing apparatus. In fact, the  
22 region, the National Capital Region, uses common

1 equipment so that we're interoperable in larger  
2 events. This is a lesson hard learned after the  
3 Pentagon and 9/11. So interoperability is not much of  
4 an issue for us, because of the nine or ten counties  
5 or the nine or ten jurisdictions within National  
6 Capital Region, everyone is interoperable between fire  
7 departments, between agencies. But many other places,  
8 one town has one manufacturer. The other town next  
9 door has another one. And now if there was a  
10 situation with a Mayday or a firefighter low on air,  
11 they each may have an EBSS system, but they would be  
12 interoperable and one firefighter wouldn't be able to  
13 support the firefighter from the neighboring  
14 jurisdiction.

15           Need of training -- You know, this is  
16 another thing that we -- of many of the comments came  
17 back and said if NIOSH would approve this, then we  
18 would feel more comfortable about going out and  
19 providing the training to our personnel and actually  
20 talking about this. But we're supplying the  
21 equipment, but we're not really discussing it because  
22 we're concerned about the legal ramifications.

1           So then more technology issues here -- many  
2    comments about gloved hands. And these are all things  
3    that can be addressed within the NFPA committee  
4    because these are all performance requirements which  
5    can be spec'd in or requirements put in to make sure  
6    this equipment is more useful.

7           Now, here again, once we're getting down  
8    into the one or two comments out of the 600 that were  
9    submitted, it's interesting to see that some of these  
10   comments keep on running in. Even though the survey  
11   was about EBSS, we still had issues here about  
12   cylinder size and limiting the hood.

13           So we asked a question: Do you know of  
14    anyone who's ever used EBSS? So 33 folks turned  
15    responses back in saying that they had. Of those,  
16    most of them were the connect and exit.

17           Clint had talked about having someone at low  
18    on air. If I'm low on air, but you got three-quarters  
19    in your cylinder and all we have to do is hook up and  
20    exit, well, that's a positive outcome.

21           This is what happened in Virginia Beach.  
22    Did I need to use half of my air cylinder to support

1 that person, absolutely not. It was just exiting the  
2 IDLH, making sure that nobody took a breath of smoke  
3 and would get out the door.

4 Connect and protect in place -- We had two  
5 instances where firefighters were trapped, well either  
6 entangled or trapped by falling debris. And that  
7 person was maintained, sheltered in place. EBSS was  
8 used to maintain the air supply until the arrival of  
9 the RIT team -- and for those of you non-fire service,  
10 that's the Rapid Intervention Team, which is more of a  
11 common policy in the country these days, where for  
12 every building fire, we'll put a dedicated team  
13 outside of the hazard zone, that if a firefighter were  
14 to become lost or trapped, that those folks can engage  
15 and then get that firefighter out.

16 But connect and protect in place -- and then  
17 two of the instances were negative outcomes where a  
18 firefighter was low on air and tried to hook up to  
19 another one. And in one case, there was an equipment  
20 failure. And the other one, they went to hook up with  
21 somebody else, he had the EBSS connections on his  
22 breathing apparatus, but the other one didn't. So we



1 just categorized that as a failure, because while half  
2 the equipment was there, there wasn't a compatible  
3 system to make a full connection.

4 I think I've explained all of those. So  
5 here are some anecdotal responses. These are some of  
6 the things that folks wrote in.

7 Firefighter out of air in the basement,  
8 deployed the system and got out. Positive outcome.  
9 What we were looking for. Not one had to take a  
10 breath of smoke.

11 And then, obviously, probably never even hit  
12 the papers or wasn't even written up. This is an  
13 anecdotal response that if we hadn't asked the  
14 question of the people that had it written in, we  
15 wouldn't have any idea that this ever happened.

16 Same thing there. A connect and exit. In  
17 this case, they actually called a Mayday. Firefighter  
18 was out of air. The Rapid Intervention Team went in,  
19 located the firefighter, was able to connect and exit.

20 Well, in my agency the Rapid Intervention  
21 Teams carry a RIT pack, which is a separate air supply  
22 cylinder. It's got a number of different connections

1 for supporting a down firefighter. But in this case,  
2 the team was just able to use EBSS and walk the  
3 firefighter out of the smoke.

4 And once again, another connect and exit.  
5 In all of these cases, you know, this is essentially  
6 what the person put into the field on the survey.

7 So protect in place -- I'd ask what a bonus  
8 room was. It's, I guess, over the garage where  
9 there's an extra room where it's built out so you have  
10 extra living place. They don't call them that in the  
11 Mid Atlantic area. But a bonus room collapsed. The  
12 person was trapped. He and his partner called a  
13 Mayday. They were able to connect and maintain air  
14 supply as the extrication took place.

15 And then the same thing. They are trapped  
16 and lead to collapse in a garage, EBSS.

17 Part of the nature of the survey, we  
18 couldn't tell if this was one incident or two. But  
19 I'm reporting it just because it's a possibility of a  
20 trapped firefighter who is a good candidate for that  
21 RIT Team to come in. But if all you need to do is  
22 maintain him for a minute or two, where you get him

1 out, disconnect him, cut the wires, or whatever the  
2 entanglement is, that you've then received a positive  
3 outcome.

4           Once again, the reflex time from calling a  
5 Mayday to engaging the Rapid Intervention Team, if  
6 it's even on the scene, can be two or three minutes.  
7 Sometimes if you've got a failure of your other  
8 systems, that two or three minutes of breathing smoke  
9 can actually lead to the death of the serious injury  
10 of a firefighter.

11           Every department has different policies and  
12 different procedures in place for the establishment of  
13 a RIT Team. In my department, it's the fifth due  
14 engine. But before the arrival of that fifth due  
15 engine, with the ability to use EBSS, then essentially  
16 we've got five or six other possibilities of  
17 supporting that firefighter with breathing air until  
18 the arrival of the RIT engine or putting another  
19 company in to support them.

20           So, here again, protect and place -- Down  
21 firefighter, supported using RIC UAC or actually -- my  
22 mistake. But this was RIC UAC and then packaged and

1 taken out. So that's the final slide that I have.

2 The issue with the survey was that up until  
3 we started asking questions, as I say we had one  
4 response nationally of -- or one known incident where  
5 EBSS had been used successfully or not. So added a  
6 little bit more to the discussion, we tried to pull in  
7 some more information.

8 What was most interesting to see was that  
9 there is no such thing as a monolithic National,  
10 United States, North American Fire Service, that there  
11 are regional peculiarities, that there are regional  
12 attitudes towards the use of breathing support. But  
13 by the generally positive comments, I think that it  
14 opens up the discussion and I think that we would like  
15 to continue this, looking toward bringing this in as  
16 an approved piece of equipment and also an approved  
17 procedure. Clint.

18 MR. KALLER: Back to the original one. Back  
19 to 5A.

20 So of the manufacturers that are out there,  
21 we surveyed, you know, all the ones from the personnel  
22 that sit on 1981. And the percentage that came back,

1 we kind of alluded to. But it was anywhere from 50 to  
2 80 percent of the units they sell into the field that  
3 come with an EBSS device.

4 Covered some of the stuff in the survey  
5 comments. 87 percent of responses indicated they feel  
6 EBSS is an important issue here for us.

7 Like you said, our survey isn't scientific  
8 evidence. But the people in the field are telling  
9 you, you know, what they're looking at and how they  
10 feel about it. And it was 50/50, I may not be sold  
11 myself. But 87 percent is a pretty substantial number  
12 where guys feel like they have some faith in this  
13 thing, and it's an important thing for firefighters to  
14 have.

15 Eighty-one percent of them said they  
16 specified in their -- you know, next to SCBA in a  
17 purchase. It was up to them, this would be part of  
18 their specification.

19 Something to keep in mind here that from an  
20 NFPA standpoint because we have, you know, worked on  
21 the language. It will go in 81 on the pretense that  
22 we want to be ahead of the curb, that if this becomes

1 possible, we don't want to be writing after the fact  
2 or not be prepared to move forward with this.

3           We're not saying this is a mandatory item.  
4 This is still in the options section of 1981. So for  
5 the people that, you know, are out there that feel  
6 like, hey, we want no part of this, we're not going to  
7 make you have a part of it.

8           It's a device that we feel has value. And  
9 if your department feels like, hey, we can support  
10 this device and train with this device to make it  
11 worthwhile and safe, it's there for you to use. It's  
12 not something we're trying to force you into or  
13 increase your cost with.

14           The other thing is, is although you could  
15 say this device to some extent has been an unregulated  
16 and undocumented component, obviously firefighters are  
17 purchasing it, departments are purchasing it, and  
18 they're using it. I'd have to believe that if it  
19 becomes an approved device, in which case other NFPA  
20 committees will be involved with writing things about  
21 this, that the safety factor of this thing is only  
22 going to get better.

1           When departments have no qualms about  
2 writing standard operating procedures for an approved  
3 device versus they're not typing something into their  
4 books for an unapproved device, I have to believe it's  
5 only going to get better for the end users, as far as  
6 his end safety and the amount of drilling that's  
7 actually going to go on.

8           And then lastly on this, I don't look at  
9 this as something we're using likely. This is a last  
10 ditch option. You should have performed your Mayday.  
11 That department hopefully has a well working air  
12 management system to keep you out of these situations.

13           This is really all else has failed. You've  
14 had an SCBA failure of some kind or you got off your  
15 line and you were unable to help yourself, and now  
16 there's somebody else hopefully that can help you.  
17 It's certainly not I want to stay in the fire longer  
18 because I think it's fun. You're just stressing out  
19 all your ensemble and what that will survive through.  
20 What it is, is all things have gone wrong and now  
21 you're not able to help yourself, and this is a device  
22 that can come in. And if you're able to help

1 yourself, this is not, you know, something that we  
2 expect to be put into service, you know, all the time.

3 We kind of already talked about, you know,  
4 the things Cal/OSHA says and OSHA says. And if you go  
5 through and looked at it -- and Chris and I looked at  
6 these things on line -- pretty much if you go to any  
7 state, they all pretty much say the same thing.

8 Washington has it different. In their thing  
9 they talk about it.

10 And I even brought up to the point that in  
11 the Scuba Diving industry, this is a mandatory device  
12 to have that second regulator on there. And they're  
13 going to share their air at whatever depth they're at,  
14 if they have a system failure.

15 If I have a choice between breathing IDLH  
16 and salt water, that's not really much of an option.  
17 But somehow however distantly related you want to make  
18 it, it's a standard mandatory device for them.

19 And I'm not using OSHA to point fingers at  
20 NIOSH. I don't want to, you know, say that there's an  
21 argument between them. I really only emphasize them  
22 to say that other people looked at it and see value in



1 it. And I think the 1984 letter is -- has been  
2 information off of what was happening in 1984. And  
3 we're in a different era with technology and the  
4 amount of training and things we do in the fire  
5 service that I think it merits, you know, some real  
6 serious consideration that this is a device that can  
7 be used successfully to help firefighters.

8           Obviously, most of this stuff has been in  
9 1981 and talked about. And like I said, we've  
10 prepared documentation within the task group that if  
11 this thing flies, we're ready to rock with it, more or  
12 less. And we did have a lot help within the group to  
13 do that.

14           I've had people ask me over and over again  
15 about 1500 and 1404. And no, I cannot speak for them.  
16 But what I have been told by people on those  
17 committees is, hey, we understand what 1981 is up to.  
18 We understand what you're talking about. And, you  
19 know, we're not slamming the door in your face. We're  
20 ready to discuss it.

21           But like 1404, they can't discuss it unless  
22 we make it happen. They're writing the training for

1 it. Well, they can't write training for something  
2 that doesn't exist right now, technically speaking.  
3 So some of those things are held up by where we go  
4 with 1981. But we have had discussion with them.  
5 There have been people that have talked to all the  
6 committees about what's going on with 1981 and where  
7 we intend to go with this.

8 And that was it for what I had  
9 presentation-wise.

10 Okay. So at twenty after three, we'll come  
11 back for questions. We'll be available up here. We  
12 have some new, some old SCBAs. So if you want to kind  
13 of look at the way things used to be done in 1984 and  
14 what was available to you versus what's available by a  
15 few manufacturers now, and you have questions about  
16 how that's going to work, we'll be happy to talk you  
17 through those.

18 (A short break was taken.)

19 MR. SZALAJDA: Again, one thing we did hear  
20 from the social media world was that if you are making  
21 a comment to try to get close to the microphone in the  
22 center. They did have some difficulty hearing the

1 questions, or at least the comments, that came from  
2 the microphone in the middle of the room. So if you  
3 are going to make a comment, if you can, you know,  
4 make sure you're close enough to the microphone to be  
5 heard.

6 Also the Docket is 147. And I think what's  
7 critical here is the timing of the closing of the  
8 docket. It closes on January 30th, and that coincides  
9 with the next NFPA 1981 meeting. So with regard to  
10 comments that are provided, time -- well, there is  
11 some time. Time is of the essence at least with  
12 regard to providing us feedback.

13 And these are the -- there are two slides  
14 which have topics where I'll be soliciting input from  
15 our panel. And to some extent, we've heard some  
16 discussion, you know, with regard to the feedback that  
17 we had from the LiveMeeting topics or presentations  
18 that were made, as well as the presentations that were  
19 provided. And I think at least I wanted to  
20 initially -- let's start with the panel or viewpoints  
21 and experience on the current policy, whether there's  
22 any opportunities or you wanted to expand on anything

1 that you may have presented earlier or if there was  
2 additional information that you would like to be  
3 considered. And then we'll follow the same format  
4 that we did this morning. We'll go to the audience  
5 here in Pittsburgh and then go to the media.

6 Chris, can I start with you?

7 MR. ANAYA: You know, I didn't do this  
8 before. I want to do it now. I thought about it the  
9 minute this thing started with the first meeting.

10 And I want to thank NIOSH for this  
11 opportunity. And this is an important first step, I  
12 think. And I'm really grateful that you guys are  
13 having this discussion, because this is important, I  
14 think, for everybody and not just for buddy-breathers,  
15 but the other subjects as well. I just want to thank  
16 you and everybody else participating, including my  
17 friends in California that's on the phone right now.  
18 But I appreciate it.

19 I'd like to just comment on some issues that  
20 have come up regarding the statutes that were read.  
21 And they apply -- federal statutes apply to fire  
22 brigades, which often -- private fire departments, for

1 instance, Texaco, Chevron. They have fire brigades.  
2 They're not public firefighters. They're not  
3 municipal firefighters. And in California, we're  
4 unique and there may be other states as well. But  
5 since I'm from California, I can only speak on our  
6 statutes there.

7           After -- federal OSHA came out 1970.  
8 California lawmakers got together and developed their  
9 own state plan, oSHA. They had their own version of  
10 OSHA back many decades. But when federal OSHA came  
11 out in 1970, they went ahead and promulgated their own  
12 Cal/OSHA in October of 1973.

13           And when they did that, they went ahead and  
14 didn't narrowly interpret the statutes, the federal  
15 statutes to mean only fire brigades, that  
16 buddy-breathing could only be used for fire brigades  
17 only and not in municipal firefighters. They went  
18 ahead and placed that into the statutes, so that all  
19 firefighters, regardless if you're a fire brigade,  
20 volunteer firefighter, or professional firefighter at  
21 a municipal fire department, we're allowed to use  
22 buddy-breather. And that was more than 35 years ago.

1 And we have been using them ever since.

2 And to the best of my knowledge -- and  
3 Cal/OSHA is participating remotely right now, perhaps  
4 they can expand on this. But to the best of my  
5 knowledge, from information from staff at Cal/OSHA,  
6 they're not aware of any fatalities that are a result  
7 of somebody in buddy-breathers in the last three or  
8 five years.

9 And I want to emphasize, there's a lot of  
10 firefighters in California. I don't know the exact  
11 number. I can't get the number, to be honest with  
12 you. But I believe it's well of 40,000 firefighters.  
13 And I have to emphasize that that's just an estimate I  
14 have. It's just a guess on my part based on trying to  
15 get the different organizations to tell me, you know,  
16 how many volunteer fire departments are there, how  
17 many professional fire organizations, how many fire  
18 brigades, and there's all these different categories.  
19 And it's just really tough to get a handle on how many  
20 firefighters there really are that the statutes  
21 impact.

22 So I just want to make that clear, because

1 one of the records I read in NIOSH's documents to the  
2 New York Department of Labor when they asked about  
3 buddy-breathers back in '85, the response was, "Well,  
4 this only applies to fire brigades." In other words,  
5 you're not a fire brigade, you're municipal fire  
6 department, so this doesn't apply. Well, in our case  
7 it does apply. So that should not be used. Not to  
8 mention, we do have an obligation to the fire brigades  
9 that are out there that do use the stuff, that federal  
10 OSHA does permit it.

11 I do know as a reference, it may help people  
12 to understand if -- I'm sorry if I'm boring you,  
13 because I really don't know how much knowledge  
14 everybody has. But federal OSHA originally was  
15 drafted and promulgated in 1970 for the private  
16 industry, not the public sector.

17 And for that reason, that's my guess why  
18 fire brigades was listed and narrowly applied only to  
19 that group and no other group. But since then, many  
20 state plans have developed -- have adopted federal  
21 OSHA regulation to apply to their state plans, and we  
22 took that's public employees also. In some cases they

1 didn't change the language like California did, in  
2 terms of applying to all firefighters. So that was  
3 important for me to say.

4           And the other thing is we've been using  
5 these buddy-breathers without NIOSH approval. And  
6 that's what the statute says, we're allowed to use  
7 buddy-breathers, even though they're not NIOSH  
8 certified, as long as -- and this is the catch. It's  
9 kind of a catch-22. We're allowed to use it as long  
10 as it does not cause damage to the apparatus, restrict  
11 a flow to the apparatus, or obstruct any kind of  
12 normal operation of the apparatus.

13           Well, heck if this isn't tested by a third  
14 party, such as NIOSH, who is the third party that's  
15 supposed to be testing and certifying this stuff, how  
16 do we know that we're not violating the law or putting  
17 our guys at risk?

18           What we're assuming is it's going to be fine  
19 based on the manufacturers, and I do trust the  
20 manufacturers. But that's why we have NIOSH. It's a  
21 third-party agency that's there to test and certify  
22 the stuff to make sure that, in this case, the proper



1 air flow is going to be able to support two people, to  
2 make sure that they're not going to freeze up -- if  
3 there's so much air, you're not going to freeze up  
4 your regulator. There's a whole list of things that  
5 come to mind, that the umbilical cords are long  
6 enough, let's say.

7           So it's real important that NIOSH's takes a  
8 step, takes a look at this and start certifying the  
9 stuff so that we can at least be a little more  
10 reassured that this stuff is going to function as  
11 promised by the manufacturers.

12           A number of things have happened as -- and I  
13 don't want to be redundant or repeat something that  
14 was said earlier by the panel. But a lot of things  
15 have changed since the 80s or the 70s. And we have  
16 redundancy systems greater than we ever had before to  
17 warn us that we may be getting low. A heads-up  
18 display, that's right in your face. You know exactly  
19 what your air level is. You're constantly being  
20 reminded. We didn't have that years ago. We have two  
21 in/two out. We also have -- in California, we call it  
22 "RIC." I guess the East Coast, they call it "RIT" --

1 "Intervention Crew/Intervention Team," whatever. You  
2 have a team ready to come in in addition to the two  
3 in/two out, in case there's a Mayday.

4 How do you do Maydays?

5 Well, now where I'm from, everybody is  
6 assigned a portable radio. And so we didn't have that  
7 years ago. One guy was assigned to a radio and you  
8 were separated from that group, they had no idea where  
9 you were. Now, everybody has a radio. We're all on  
10 the same page. We have much better training than  
11 we've ever had in the past.

12 It's constantly drilled in our head and --  
13 in fact, I think anybody up here can probably verify  
14 how much training we have to go through, more than I  
15 ever recall in my career. But it helps. It certainly  
16 helps and it makes you more prepared. Should you ever  
17 have a problem or somebody else have a problem, you're  
18 able to react and remain calm and do what you need to  
19 do to get out safely.

20 And I think that's about it. That's all I  
21 have to say. You shouldn't have asked me because I  
22 get long-winded, as you could tell.

1 MR. SZALAJDA: That's all right, Chris.

2 Thank you.

3 Anything else from the panel on the first  
4 subject?

5 MR. KALLER: A couple of things I wanted to  
6 add to you that people had questions about at the  
7 break, about the use of a system like this. And some  
8 of the things that had been discussed within 1981.

9 One of the things that was brought up is the  
10 air cylinder size. And it's certainly been a  
11 discussion amongst the task group and the committee  
12 itself that with a system like this you may be  
13 required to purchase this only with an 1800 liter  
14 cylinder or bigger, so that you have more air to work  
15 off of, and the guy that's trying to do the rescuing  
16 isn't starting out with a 1200 liter cylinder that's  
17 already be used to some extent. So this kind of  
18 language has already been discussed in there and put  
19 on the table and, you know, looking at flows and  
20 people's intake and stuff like that.

21 The other thing was one of the tests that we  
22 came up with, and NIOSH was a huge help to us on this,

1 when we're looking at these things, and I'll be the  
2 first person to say even though this product has been  
3 out there, I think the manufacturers prior to this  
4 have done an outstanding job.

5 Nobody has built something that's out there  
6 that really isn't working, even though we're going to  
7 call it unregulated. Everybody that's building this  
8 stuff realizes this has got to be a high flow device  
9 and have done a very honest job of making it work in a  
10 condition we're not supposed to be using it in.  
11 They've all done a fair and admirable job to the  
12 benefit of all their own, you know, companies to  
13 protect firefighters, which is their goal.

14 But we have looked at that. And one of the  
15 tests that NIOSH assisted us in looking at saying,  
16 hey, this will be the toughest thing you could do is  
17 take two BAs, cold soak them, you know, hook them  
18 together on a machine, one with an almost empty  
19 cylinder, one with full -- I'm really making it simple  
20 terms here -- hooking them to two machines that are  
21 breathing 103 liters per minute each at the same cycle  
22 and breathing those things down to empty. And you

1 know, I'm not the scientist type. But that is a far  
2 tougher environment for an SCBA to live through than  
3 if we have in a heated chamber.

4 So NIOSH did have a piece of this when we  
5 discussed this in the committee and gave input as to  
6 the manufacturers; hey, we're looking for this thing  
7 to work with two people breathing heavily at the exact  
8 same time for an extended period of time in a freezing  
9 environment. If anything was ever going to go wrong,  
10 that's when it would do it.

11 So those are the kind of things that NIOSH  
12 was looking at that gave us advice as to what we would  
13 consider putting in the 1981 for it to pass, you know,  
14 at our level to try to find the most extreme condition  
15 it has to operate in and make it through.

16 MS. CRISHER: I just would like to add one  
17 other thing, and it kind of reiterates what they're  
18 talking about.

19 Based on the surveys that came back, it's  
20 obvious -- not obvious, it's evident that perhaps  
21 about 70 percent of all fire departments out there  
22 have these tools. And it's scary to me -- I was the

1 Health and Safety Officer during this investigation,  
2 and it's scary to me that there's no training  
3 requirements on it, no testing requirements on it,  
4 nothing to make people learn how to use them, to use  
5 them safely and effectively. They just give it to  
6 them and told them to use them. So that's why I would  
7 love to see a change made so that people have to train  
8 on them. People have to test on them, just as all the  
9 rest of our equipment is done.

10 MR. SZALAJDA: All right. Thank you.

11 Are there any comments from the floor on the  
12 viewpoints and experience on the current policy?

13 MR. DUFFY: Okay. You know, there's never a  
14 microphone I don't like so -- Duffy with the  
15 Firefighters Union. I just got a couple of things to  
16 say.

17 Most importantly, earlier on today there was  
18 a slide up there that said that the IFF and a couple  
19 of other organizations was opposed to buddy-breathing.  
20 That's about two decades old. And we're in no  
21 opposition to the buddy-breathing issue. I think the  
22 clearest issue that we have to get them to explain

1 that, and the simplest way of explaining it, that if  
2 your partner ran out of air, what would you give your  
3 partner? And the answer is half your air, then I  
4 think that's the answer to what buddy-breathing really  
5 is out there.

6 The issue when you talk about Mayday,  
7 though, was a real serious issue. And the lack of  
8 training -- and I agree with you, by the way, amen on  
9 the breathing apparatus issue.

10 You know, we live in a country where I can't  
11 go out and get my scuba cylinder filled anywhere  
12 unless I can show my certification. They will not  
13 fill your cylinder.

14 You can wear a breathing apparatus all day.  
15 You can go get the box, open it up and wear it, and  
16 have zero training. And you know what, believe it or  
17 not, there's very limited training in many fire  
18 departments across this country, and anything that  
19 enhances that would be a big benefit.

20 And I want to just give you some -- as an  
21 example of what was talked about on this Mayday, how  
22 serious this is. About -- and you may know the

1 answer.

2 About four years ago, there was a study done  
3 in Savannah. They called it "Project Impact" and they  
4 published it regarding Maydays.

5 What they did is they took 160 of their  
6 firefighters -- and these are career firefighters --  
7 and they brought them into training one day. One  
8 didn't talk to the other. In fact, they signed some  
9 confidentiality agreement. And they were put in a  
10 scenario where they're in a cold, smoked shopping  
11 center, with zero visibility. The same fire that  
12 happened down at the beach. And then they evaluated  
13 what they would do. They said you're in trouble.  
14 You're separated now from your crew. You're  
15 disoriented. Get out of this room.

16 And I'll give you the numbers because  
17 they're pretty -- they're sad. Fifty-two percent  
18 attempted to use their radio. Again, they all had  
19 radios. They had full equipment. Only half of them  
20 attempted to use their radio knowing that they were  
21 lost. Thirty-eight percent activated their P.A.S.S.  
22 Eighty-two percent searched for an exit.



1           And I was talking to someone a littler  
2 earlier today -- and I say this all the time -- I've  
3 been in way too many fire failure fatalities and  
4 funerals. And when I go to them, I go to the  
5 building -- and Monday morning quarterback is real  
6 easy, so I'm not criticizing them. But the one thing  
7 that's always stuck out from the first one I was at in  
8 Lovett, Texas, to the most recent one, as you go into  
9 the room of where they died and there's prints,  
10 handprints, glove prints along the wall. And why is  
11 that? They're looking for what they were trained to  
12 do; the window, the door.

13           And in most of those cases, the only thing  
14 that kept them from being alive today was a half-inch  
15 piece of sheetrock. And you know, but they weren't  
16 trained to go through that, so they weren't -- they  
17 were trained -- in training they were told to look for  
18 the window, look for the door and that's where you get  
19 out. And when you're scared to death, you revert to  
20 your training, and that's what they do. You see the  
21 handprints. All you needed was a strong shoulder.  
22 You didn't need any special tools to get through a

1 half inch piece of sheetrock or plaster in that.

2           Anyway -- but they did search for an exit.  
3 Eighty-eight percent of them made noise with a tool.  
4 Make noise, I mean that's what you got to do for  
5 people to find you. As you heard from -- earlier from  
6 the beach that, you know, flashlights don't work. You  
7 can do all the lighting you want, but 3 percent tried  
8 to use their light. Nine percent followed the hose  
9 line. Four percent activated their E-trigger on their  
10 radio. One percent initiated breathing techniques.  
11 One percent or less, one person lost their radio. One  
12 lost their glove and so on and so on.

13           But the most important statistic out of  
14 this -- 160 people -- is six of them lived. Six of  
15 them lived. So, you know, do the math. 154  
16 firefighters for that training scenario would have  
17 died if that was a real incident and because of lack  
18 of training.

19           And just another quick -- so again, anything  
20 that's going to keep our firefighters alive, whether  
21 it's the combination device we talked about this  
22 morning or the rapid approval of allowing for what's

1 happening out there with buddy-breathing, is certainly  
2 what our union desires.

3 And just for a quick catch-up for Chris.  
4 There's about 63,000 firefighters in California.

5 MR. ANAYA: Oh, cool.

6 MR. DUFFY: 30,000 of them are career;  
7 33,000 of them are volunteer, if I remember right. So  
8 that's about the numbers and that doesn't include the  
9 Wildland Federal Firefighters. But it does include --

10 MR. ANAYA: You're the first one to give me  
11 the answer. And now, see, I'll call you the next  
12 time.

13 MR. DUFFY: The only reason we know is  
14 because we did an equation for the cancer work that  
15 was out there. But the other issue that you hear of  
16 these fire brigades, let me tell you the real story  
17 about the fire brigades.

18 The fire brigade standard that's in OSHA was  
19 not written because industries said come on in and  
20 regulate our fire departments. We wrote it. And we  
21 wrote it because we knew what the OSHA law said, which  
22 as Chris said is right, that it didn't cover public

1 employees. It only covered private sector employees.  
2 So we had to write a standard for private sector fire  
3 departments, which were these, quote, unquote, fire  
4 brigades. And we did that, and it was passed in  
5 December of 1980.

6 And the reason is because the OSHA Act, as  
7 Chris said, allowed the states to it take back -- when  
8 Nixon signed the OSHA law, it took all the rights away  
9 from states to do any health and safety in their  
10 particular state. It was all done by the federals,  
11 with the caveat that you could take it back, the feds  
12 will give you money. You had to mirror the standards  
13 that the federal government -- then they called it a  
14 state plan. But you also -- if you did take it back,  
15 you had to provide for the public sector, as you did  
16 for the private sector.

17 So 28 or so states then got immediate  
18 coverage for all the -- for public employees and  
19 hence, there was a private standard for private fire  
20 departments. That became the standard for public fire  
21 departments. So that's how that occurred. So it  
22 wasn't that it looked at industry, because you know

1 what, it didn't.

2           The problem with the fire brigade standard,  
3 it was signed in 1980. It's that old. So nothing's  
4 been done at the federal OSHA level for 30 years for  
5 firefighters. There was an attempt to do that two  
6 years ago; it was put on the regulatory schedule. And  
7 just last year, it was removed from it again. And so  
8 we've been working with the Secretary of Labor and the  
9 Assistant Secretary trying to get that back on their  
10 regulatory schedule. But with the current climate,  
11 who knows what changes are going to be made in that  
12 standard. We're not certainly hopeful for that. So I  
13 don't need to sit here and blabber, because I'm sure  
14 you have more people to say --

15           But we are certainly in support of this, and  
16 we encourage NIOSH to move as expeditiously as  
17 possible to find a way to allow it. Because you know  
18 what, without you it's going to be done anyway. And  
19 we might as well do it the right way. So thank you.

20           MR. SZALAJDA: Thank you, Rich.

21           Any other comments from the floor on this  
22 particular topic?

1 John, can we check LiveMeeting?

2 Okay. For LiveMeeting participants, we're  
3 on the viewpoints and experience on the current policy  
4 if you have any comments to provide on that particular  
5 subject.

6 MR. HOROWITZ: Hello.

7 MR. SZALAJDA: Yes. Go ahead.

8 MR. HOROWITZ: Hi. This is Mike Horowitz  
9 with Cal/OSHA. Just to confirm what Chris and Anaya  
10 said, that Cal/OSHA does by policy cover all employees  
11 in the state, other than federal employees.

12 So we do cover public fire departments with  
13 the same and very similar standard regarding  
14 buddy-breathing to the federal OSHA because -- but we  
15 kind of chose to -- even though the federal standard,  
16 as Chris said, was just strictly the brigades, because  
17 we cover all employees when we had to adopt the  
18 federal standard regarding fire brigade, we chose to  
19 extend that as well to our other fire departments, the  
20 public sector fire departments.

21 And having said that, I think that Cal/OSHA  
22 would be in agreement with those who would like to see

1 some kind of standardized testing by NIOSH of the  
2 adequacy of the systems that are being sold by the  
3 manufacturers. We would agree with that suggestion,  
4 I'm sure. Oh. Not authorized to speak for the  
5 division per se. But I'm sure that should we submit  
6 an official statement, it would say something to that  
7 effect.

8 MR. SZALAJDA: All right. Thank you very  
9 much. Any other LiveMeeting comments?

10 Any social media comments?

11 MS. POWELL: (Nods head from side to side.)

12 MR. SZALAJDA: Okay. I'd like to take  
13 items 2 and 3 and combine them with regard to any  
14 research that's needed to support recent --  
15 reaffirming or modifying a policy, as well as  
16 identifying any research that may not have already  
17 been discussed here today that might have been done  
18 related to the subjects. So I open it up to the panel  
19 if they wanted to add anything to the research aspect.

20 MR. ANAYA: Well, I guess we're referring to  
21 the research of the policy, research of --

22 MR. SZALAJDA: Well, research related to

1 information that you think we should have to address  
2 making changes to the policy that we haven't already  
3 addressed as part of your presentations today.

4 MR. ANAYA: Well, I will go ahead and say  
5 something, take the opportunity.

6 I just want to formally say that indeed  
7 support revising the policy, modifying it, to start  
8 reviewing and certifying something that's being used  
9 and will be used, even if you didn't approve it.

10 As Rich Duffy pointed out correctly, we as  
11 firefighters, we're going to find a secondary means to  
12 protect ourselves, should something happen. And I  
13 think that -- let's assume that Cal/OSHA or federal  
14 OSHA or everybody disallowed the use of  
15 buddy-breathers, let's just pretend that's the case.

16 Firefighters are going to find a way to  
17 devise something to hook in, create -- make a homemade  
18 device to make it work so they could use something.  
19 And you know, you go into survivor mode and you think  
20 about it -- you get scared one time and you never  
21 forget that day. And so you're going to come up with  
22 a device and maybe modify your SCBAs illegally, so



1 that should something happen, you can hook up with  
2 your partner.

3 We don't need to take that route. We don't  
4 need to go there. We have something that's actually  
5 approved, at least to a certain extent, by OSHA. And  
6 in California, it's approved to not be a problem, and  
7 maybe Mike can get back on the phone here and verify  
8 if he's heard anything about any kind of fatalities  
9 resulted from the use of buddy-breathers. I don't  
10 believe there are. The last I heard, there hadn't  
11 been. But I think it's time to move forward and begin  
12 certifying this stuff by NIOSH, the third party that  
13 should be testing this, this equipment.

14 MR. SZALAJDA: Thanks, Chris.

15 MR. KALLER: I'll just kind of piggyback on  
16 that.

17 And one of the things that bothered me when  
18 we started down this road -- and you heard our  
19 committee chair talk in the beginning about -- and  
20 this is his terminology, and I agree with it. It's  
21 like we have this going on. It's a "wink wink, nod  
22 nod." And we know it's happening, but we're not

1 talking about it. And NFPA isn't approaching it  
2 because it's not going to get past NIOSH.

3           And the thing that concern me the most is  
4 we're going to do our best to go down the road we're  
5 on now, and they're going to take things away from  
6 this meeting as NIOSH and the people -- the comments  
7 that were made and the things that were presented  
8 here. And then you're going to have your own  
9 information that comes in off the docket and all the  
10 comments people make. And then you guys are going to  
11 get to sit down and make a decision on the ease of  
12 doing this or the importance of doing this or if it's  
13 feasible and -- there's a ton of things to weight in  
14 on. Like the one gentleman said, he goes, they really  
15 feel like this was an issue to where they're afraid  
16 the guy is going to walk -- walk opposite directions  
17 and pull their facepieces off.

18           Well, we kind of got around that problem,  
19 you know, with technology. But you know, there's  
20 still issues with people using it. The scariest part  
21 for me is, is let's say, NIOSH decides, okay, this  
22 isn't going to happen. Now, it comes back to NFPA.

1 And are we going -- as NFPA, are we willing to set  
2 there and go, okay, we're going back to "wink-wink,  
3 nod-nod," which is how we got to this place in the  
4 first place, not wanting to be those folks. So then  
5 at the opposite end of the spectrum, we say, well,  
6 we're following NIOSH and we're just going to say this  
7 ain't happening.

8           The minute we do that, the people that own  
9 SCBAs, that have them now, are going to never want to  
10 give them up, because they can't replace them with  
11 something like. And then the other thing is that  
12 Chris alluded to -- and I should have included one in  
13 my program. But if you go on the Internet and look  
14 under Mayday devices, you will find a company that  
15 sells basically some type of rubber hose with a  
16 stopper in it that is designed to plug into different  
17 facepieces of different manufacturers and seal it up  
18 so you can plug it in your facepiece and stick it in  
19 your turnout coat, like we did when we had the  
20 corrugated tubes, you know, which is of almost zero  
21 value to that guy actually living.

22           So if NIOSH does not move forward with this

1 it's going to really come back to NFPA and go, okay,  
2 are we going back to "wink wink, nod nod"?

3 If we don't, I think in general we're all  
4 going to lose some credibility with the fire service  
5 in general, because we're not giving them what they're  
6 asking for. And secondly, we're going to create a  
7 whole nother set of problems by they're going to find  
8 a way on their own, which is what we're trying to get  
9 away from is don't build your own devices. We'll  
10 build you something or design something that can be  
11 built and tested that works.

12 MR. SZALAJDA: Thanks, Clint.

13 Any other comments from the panel?

14 Anything from the floor with regards to the  
15 research topic?

16 MR. DUFFY: I have to get up to the mike.

17 MR. SZALAJDA: Yes, you do.

18 I think it's possible if you want, you can  
19 bring the stand further back.

20 MR. DUFFY: Duffy, Firefighters.

21 When you look for research, I don't want  
22 you -- you go out and do the search for -- google

1 search for devices. I think you have to look at some  
2 of the other experience. Like you can look at NIOSH  
3 reports, and I know the committee went and looked at  
4 NIOSH reports as specifically related to  
5 buddy-breathing devices.

6           However, you look at the NIOSH reports of  
7 people that -- the firefighters that died because they  
8 didn't use a device or a device where that wasn't  
9 used. I think the Deutsche Bank fire in New York City  
10 where two firefighters died and twenty -- I think 28,  
11 29 were this close. I mean, it was real close and  
12 they had to -- for a number of reasons, there would  
13 have been many, many, many more firefighters died  
14 running out of air.

15           The Dollar Store fire in Memphis, so that  
16 will be under fire in Memphis kills -- or excuse me,  
17 in Tennessee kills two firefighters. Because that's  
18 how NIOSH's writes up the reports. So it's the Dollar  
19 Store fire in Memphis, where one firefighter went to  
20 his buddy and says, I'm running out of air; could we  
21 share air and unfortunately the response from his  
22 partner was, my bell just went off. I'm out of air

1 too, you know.

2 But there's lots of scenarios like that that  
3 support what the committee has addressed and I think  
4 just don't go looking for -- just because it's not  
5 there under devices doesn't mean it's not there, from  
6 experience, because there's day after day after day  
7 when firefighters run out of air. Certainly supports  
8 what we talked about this morning, as I said, the  
9 combination unit and certainly supports the capability  
10 of sharing your partner's air. Thank you.

11 MR. SZALAJDA: All right. Thank you, Rich.

12 Any other comments on research needs?

13 MR. CLOONAN: Good afternoon. Terry  
14 Cloonan, NIOSH.

15 I would offer that the research agenda  
16 should look a little bit closer -- the practical  
17 application of this device as it's used in training  
18 scenarios, whether it be at the fire academy level and  
19 other types of training environments, to ensure that  
20 there's a strong database to support the end state  
21 cautions and limitations if, in fact, they are in  
22 support of -- in a final standard.

1 MR. SZALAJDA: All right. Thank you, Terry.  
2 Okay. I think, John, let's try the  
3 LiveMeeting.

4 Any comments from our LiveMeeting  
5 participants on the research questions?

6 MR. ROSSOS: Good afternoon. This is Dan  
7 Rossos again, Jon.

8 MR. SZALAJDA: Hi, Dan.

9 MR. ROSSOS: How are you?

10 MR. SZALAJDA: Good.

11 MR. ROSSOS: I just wanted to add -- many of  
12 the individuals that are there today don't know we  
13 have slipped a cycle in 1981. And what that means is  
14 we have submitted to the Standards Council, the NFPA,  
15 and they have given us approval to basically extend  
16 1981 from a five-year cycle, this time, to a six-year  
17 cycle. We've added one more year.

18 The reason we did that, in part, was because  
19 of the issue before us now with buddy-breathing and  
20 with the possibility of this review taking place. And  
21 so even though we have slipped that cycle and we have  
22 now identified 1981 as a 2013 standard instead of a

1 2012, we are still on a very, very limited timeline.

2 And so I would just, obviously, encourage  
3 everybody who's there today and everybody who's  
4 listening if they have their comment and they have  
5 their concerns, positive or negative, to please make  
6 them known so that we can get the information in  
7 NIOSH's hand, they make a decision, and likewise then  
8 give us a foundation for direction with the NFPA.

9 I thank you again for today. And this is  
10 where this had to come, and I'm so encouraged where  
11 we're at today. Thank you very much.

12 MR. SZALAJDA: Thank you, Dan.

13 Any other LiveMeeting comments?

14 Okay. I think you can kill the LiveMeeting.

15 We have one social media comment now.

16 MS. POWELL: Hi. I have a comment from a  
17 David Spelce from the Navy, and he states:

18 It does sound like NIOSH does need to  
19 reevaluate this issue, especially with development of  
20 the EBSS, which sounds like real life saving devices  
21 for the fire service.

22 MR. SZALAJDA: Thank you, Dave.



1 All right. Well, the last question or at  
2 least -- and we're running out of questions, so hang  
3 in there with me -- is related to recommendations on  
4 SCBA technology and performance enhancements that  
5 would enhance user safety during the emergency use of  
6 a buddy-breathing device.

7 And on this subject we're looking for  
8 identification of performance requirements that you  
9 feel would be important for us to consider with regard  
10 to addressing the policy, and I think it's kind of a  
11 two-edged sword that I'm looking at it.

12 One is, though, obviously we need a user  
13 perspective on what they would want from a performance  
14 standpoint, but also I think from the manufacturing  
15 community that's here, you know, with them being able  
16 to address the technical requirements as far as how we  
17 would devise the performance requirements.

18 So I'll start here with the panel.

19 MR. FLINT: I'll beat Chris to the punch.

20 The feedback from the survey, as well as  
21 discussions within the committee, pointed out that  
22 there are a number of sort of commonalities, a number

1 of concerns that a lot of people share about EBSS, the  
2 first one being interoperability.

3           This is a technology issue with all the  
4 different manufacturers using different levels of  
5 different pressures of intermediate air. Not that it  
6 can't be fixed, but I would hope that maybe not this  
7 cycle, but by next cycle we would have a system where  
8 any manufacturer would be interoperable with any  
9 other.

10           Short term, though, having the ability to  
11 supply other members of your agency, your local  
12 response group is the most important part of -- but  
13 then the suggestions from people, actually users, had  
14 been focused in on ease of use, being able to use the  
15 fittings using gloved hands, being able to use the  
16 fittings when stressed. Now, a lot of this is all  
17 based on training and experience and muscle memory and  
18 repetition of the exercise. But I think that all  
19 these things lead in toward an easy to use, fairly  
20 simple operation, where you're not going through a  
21 number of different steps to make a connection.

22           So I think those two issues there, ease of

1 use and interoperability, are the two major issues  
2 that I'm pulling back from the folks that I'm talking  
3 to.

4 MR. SZALAJDA: All right. Other panel  
5 comments?

6 MR. ANAYA: I would just suggest working  
7 with the 1981 committee and where they can put their  
8 heads together and make recommendations through that  
9 means, because I'm sure there's a lot of things to  
10 consider, way more than I can think of right now.

11 MR. SZALAJDA: Thanks, Chris.

12 Any comments from our participants here in  
13 Pittsburgh?

14 MR. HASKELL: Bill Haskell from NIOSH NPPTL.

15 Perhaps, on that last bullet another  
16 opportunity that should be considered is technology  
17 performance enhancements above and beyond  
18 buddy-breathing can be used in an emergency, such as  
19 another source of air, a different way to partition  
20 emergency air, other technologies that would give you  
21 that emergency air so that you'd have another  
22 alternative to hooking up to someone else's system.

1 MR. SZALAJDA: Thank you, Bill.

2 Any other local comments?

3 LiveMeeting?

4 MR. ROSSOS: This is Dan Rossos again.

5 Yeah. Just to kind of touch on what Bill had just  
6 mentioned, some of the issues that have come up as  
7 potentials with buddy-breathing.

8 We have worked for a number of years with a  
9 task group for escape systems, personal escape systems  
10 for a firefighter in distress, running out of air.

11 One of the ideas that had come up regarding  
12 that that perhaps could combine with buddy-breathing  
13 would be a separate chamber within the SCBA, an  
14 additional compartmentalizing of SCBA air that can  
15 only be accessed in an emergency, that could be used  
16 for the individual that's wearing the SCBA and/or used  
17 as a buddy-breather system.

18 The concern with that was that you would  
19 have individuals accessing that compartment, or that  
20 set aside air, to just maintain their ongoing EOPS  
21 operations. And part of the stipulation that had been  
22 mentioned were, perhaps, if that emergency air were

1 accessed at any time, it would render the SCBA  
2 unusable until it was reserviced and, perhaps, that  
3 some type of a notification would be sent forth to a  
4 near miss situation or something like that database.

5 That was probably one of biggest ones that  
6 had come up, that potentially, and accessing the low  
7 pressure side and/or the high pressure side, giving  
8 you the option to transfill or to just maintain  
9 supplying to the mask.

10 MR. SZALAJDA: Thank you, Dan.

11 Are there any other LiveMeeting comments?  
12 Social media?

13 The other discussion topics are related to  
14 recommendations on technology safeguards and also  
15 viewpoints on minimum standard requirements.

16 I think from our perspective -- and I think  
17 it follows on the point that Chris had raised with  
18 regard to the work that NFPA has done is that if NIOSH  
19 is going to pursue the modification or other  
20 disposition of the policy, what types of evaluations  
21 do you feel would be important for us to consider as  
22 part of a certification process to evaluate the

1 fittings or connections or other pieces of the  
2 apparatus that would facilitate buddy-breathing?

3 MR. KALLER: A couple of things that came to  
4 mind were -- as in some of the other things we do  
5 between NFPA and NIOSH, NIOSH does very similar  
6 testing, what NFPA does. We just do it at a different  
7 flow rate. So I can see NIOSH possibly testing at,  
8 what, 40 liters is pretty much your normal flow rate  
9 for testing and doing that and then at NFPA level  
10 would be done, the same similar time test would be  
11 done at 103 liters per minute.

12 In touching on what Dan Rossos talked about  
13 with the partition cylinders -- and yes, that has been  
14 talked about in there -- you know, even within that,  
15 there are some technology issues in making that work  
16 and, you know, if you want -- I hate to always keep  
17 bringing the human side into things, but people like  
18 to touch on that. It's like is, you know, is there  
19 have to be technology built in. The guy uses it  
20 mis -- inappropriately that there's a price to pay  
21 that that SCBA has to go to shops to be reset, to try  
22 to keep them from doing that. And now we're adding

1 more technology to the problem.

2           And then the other thing that that doesn't  
3 address is you may have more air, but if it's a  
4 failure of some type that didn't allow you to get your  
5 initial air out, more air isn't helping you anyways.

6           So although I think that's, you know,  
7 something that the committee has wrestled with, you  
8 know, certainly in the fire service, we have a larger  
9 multitude of cylinder sizes and choices.

10           The cylinder technology has advanced to the  
11 point that what you used to do weight-wise with a  
12 30-minute cylinder, you can now do with a 45. So the  
13 people who it's all about the weight, you know, that  
14 issue has been solved somewhat with technology if that  
15 was your major concern.

16           But one of the advantages of EBSS is it's  
17 allowing for immediate air and it's allowing for a  
18 system failure, that it can possibly overcome that  
19 system failure.

20           And then, you know, there's lots of  
21 possibilities. With the way things are done, we have  
22 new SCBAs -- and I explained it to a few people

1 sitting there, showing them an item similar to ours.  
2 On our RIC bag we have different fittings that are on  
3 the EBSS. One side of our RIC Y block, we have the  
4 universal air connection. That is our first choice to  
5 use if you're coming in with a RIC bag and provided  
6 the guy does not indicate it's a system failure.  
7 After that, we can take and pull our Y block out and  
8 plug into his buddy-breathing side, his female to our  
9 male side. However, on our Y block, our female is  
10 different than the RIC side. Because if all else is  
11 failed, we can disconnect from the second stage  
12 regulator and plug it into that and now we can cut the  
13 whole BA off the guy and nothing is left but the  
14 facepiece and the second stage regulation. And now  
15 he's on the RIC bag operating on almost a devoid  
16 system of that BA with nothing left but that.

17 And that was just our choice to have three  
18 possible options that when you show up with that bag  
19 you have, you know, access to that guy. You know, I  
20 keep saying -- we're talking about scenarios that are  
21 close to never happening, that some guy is trapped to  
22 the point that all you can see is his facepiece. But



1 then at the same time, firemen being what they are, we  
2 look at every possible scenario and find out how we  
3 can work around it.

4 But that also takes me back to there's  
5 things that EBSS can do for somebody that more air  
6 can't do, that UAC can't do. And it's just another  
7 option. We're not telling you you have to have it.  
8 It's for departments that believe they can use it  
9 safely.

10 MR. SZALAJDA: Thanks, Clint.

11 Any other comments from the panel?

12 MR. DUFFY: I lied. Duffy, Firefighters.

13 I think the little you need to do -- you  
14 need to do as little as possible. I think everything  
15 you have right now is already NIOSH approved. You  
16 have the UAC valve. The UAC valve is there. That's  
17 part of the approval process right now. So the only  
18 thing you really would be testing is the hose. And I  
19 look at this as a filling line hose.

20 You don't certify filling hose lines from  
21 the cascade system or however they're filling the hose  
22 up. So I think there's very little approval needed --

1 and I'm saying that, because I know the approval  
2 system and we could be older people than we are now,  
3 by the time that gets through. And I think it's just  
4 the recognition that this is a tool.

5           And again, I can't overemphasize this.  
6 Buddy-breathing devices are a hose line between UAC.  
7 RIC valves is just one tool in a very large, large  
8 toolbox that needs to be done, and the firefighters  
9 aren't trained to survive Maydays. I know the fire  
10 ground's survivor tool is RIC. This is not going to  
11 save their lives. So it's one part of that. But I  
12 think there's very little in part of the certification  
13 process, if anything, that needs to be done right now.  
14 Because there's nothing -- unless there's some new  
15 devices.

16           Now, I don't think any performance standards  
17 out there should inhibit devices. And I can think of  
18 lots of things that in effect will be done in the  
19 future. We know what we have right; we begin.

20           There's the future needs to look outside the  
21 box. I think it can be a self-contained hose line  
22 within everybody's breathing apparatus. It could be a

1 one-time use only. I know we can have extra ones  
2 training. But because it's probably only going to be  
3 one-time use and -- or something that's completely  
4 integrated to make it a lot easier. And I think we're  
5 moving towards new products all the time. So I  
6 wouldn't want anything in the performance standards to  
7 be design restrictive and to inhibit any such new  
8 innovation.

9 So in terms of what you have right now, you  
10 got the UAC valve there. It's already been certified.  
11 And I don't think you need a whole lot more. Thanks.

12 MR. SZALAJDA: Thank you, Rich.

13 Any other comments from the floor?

14 LiveMeeting?

15 Any other comments on the slide from the  
16 LiveMeeting participants?

17 Okay. Social media?

18 MS. POWELL: No.

19 MR. SZALAJDA: No. Okay.

20 Well, with that, what I'd like to do is  
21 thank Deborah and William and Clint and Chris. I  
22 think it's obvious that they put a lot of time and

1 thought into what they presented today on a very  
2 sensitive subject, and I think they handled the  
3 information very professionally, and I think it  
4 definitely expanded our knowledge base with regard to  
5 the subject.

6           So with that, thank you.

7           And John, I have a couple wrap-up remarks,  
8 if you can bring up the overview presentation again.

9           The Docket for Buddy-Breathing is 147.

10           Just as a reminder, the stakeholder meeting  
11 for March 29th, continue to check our website, the  
12 NPPTL website, for additional information.

13           We'd appreciate hearing back from you. One  
14 of the ideas that we'd like to consider -- and some of  
15 you may be aware that at the recent Industrial Hygiene  
16 Conference that was held in Denver this year, we  
17 conducted a training seminar for CBRN respirator  
18 selection, use, and maintenance. And if the  
19 stakeholders feel that that would be valuable, we're  
20 looking at possibly conducting an abbreviated version  
21 of that course here on March 30th. So if you would be  
22 interested in having that training made available,

1 we'd like to go ahead and try to schedule that for a  
2 follow-up to the stakeholder meeting on the 29th.

3 I also wanted to acknowledge a couple of  
4 individuals, and unfortunately they're not here in the  
5 audience today. But they're individuals that made a  
6 contribution to our program. A couple of them are  
7 from NPPTL and one is from the NFPA. And those  
8 individuals are moving into one of the phases of life  
9 called "retirement," which I hear is a very delightful  
10 state to be in. But I don't know if I'm ready for  
11 that or not.

12 But Mike Monahan and Lynn Rethi from NPPTL  
13 are retiring at the end of this year. And both of  
14 them made a huge contribution to our program.

15 For those of you who know Mike, Mike had  
16 worked with Calgon for many years prior to coming to  
17 government service. And he was very instrumental in  
18 not only working with the CBRN program and then the  
19 definition of the requirements for the CBRN  
20 respirator, but also with helping us establish our  
21 certification facilities at NPPTL.

22 Lynn Rethi is the Deputy Branch Chief for

1 the Technology Evaluation Branch, and he has played a  
2 role with self-contained self-rescuers in mine safety  
3 and health issues for many, many years. And their  
4 expertise will definitely be missed.

5 Also, I want to acknowledge, for the record,  
6 Bruce Teele and his contributions from the NFPA, not  
7 only to NFPA's program and standards development, but  
8 also his support of the NPPTL mission. And as I had  
9 mentioned up front in my opening remarks, it is  
10 definitely -- it's a program mission. It's not  
11 necessarily an NPPTL mission, but it's an activity  
12 that we all participated in. And I think Bruce's  
13 contributions will be felt in this community for many,  
14 many years to come.

15 So with that in closing, I wanted to give  
16 one last call opportunity for anyone who would like to  
17 make a comment with regard to the public meeting  
18 topics today.

19 If you focus at the end of the Internet  
20 link, that's the docket number associated with each of  
21 the topics that we discussed today. And it would be  
22 note that the timing of the closing of the docket,

1 it's all integrated into the web page. The  
2 instructions for how you make submittals are included  
3 there as well. And as information is forthcoming, it  
4 will be added to the docket.

5 So with that, I'd like to at least open up  
6 for here in Pittsburgh any last comments on the  
7 regulatory agenda.

8 MR. ANTUNES: Thanks, Jon. Will Antunes  
9 with Structural Composites Industries.

10 Thanks for putting this on and especially  
11 for NIOSH taking a second look or another look at CFR  
12 42, Part 84. One of the interesting things that I  
13 heard today, and I've heard in some of the NFPA  
14 meetings as well, is a lot of focus on cylinders.

15 And as a manufacturer of cylinders, we  
16 believe that CFR 42, Part 84 could be substantially  
17 improved with a component part approval -- cylinders,  
18 specifically. And because so much of what we're  
19 talking about, whether it be the morning session or  
20 the afternoon session, has to do with cylinders.

21 So much of everything that's SCBA related  
22 has to do with cylinders. So we believe that a good

1 strong look at a component part approval for the CFR  
2 would make sense and we also believe -- and know  
3 anecdotally through our own information gathering --  
4 that much of the fire service, in fact an overwhelming  
5 portion of the fire service, would welcome it as well.

6 So we very much encourage NIOSH to do that,  
7 to create a component part approval process, similar  
8 to, say, what the Federal Aviation Administration has  
9 for cylinders aboard aircrafts of all sorts, so that  
10 many of the benefits by doing so could be achieved in  
11 the fire service. Thank you.

12 MR. SZALAJDA: Thank you, Will.

13 Any other comments related to regulatory  
14 agenda?

15 We'll hold LiveMeeting until the end.

16 Any comments from our Pittsburgh  
17 participants on the CBRN Combination Respiratory Unit?

18 Okay. Any comments on the SCBA Emergency  
19 Escape Support Breathing or the Buddy-Breather System?

20 Okay. John, we'll check LiveMeeting.

21 Any comments from our LiveMeeting  
22 participants on the public meeting topics?



1                   Okay. Social media? No.

2                   Well, with that, I'd like to thank you all  
3 for your participation. I hope it was as informative  
4 and helpful to you as it was for us. And we'll look  
5 forward to seeing you next year. Thank you.

6                   (Whereupon, the proceedings in the  
7 above-captioned matter were concluded at 4:19 p.m.)

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CERTIFICATE OF REPORTER

I, Delores M. Green, reporter, do hereby certify that I was authorized to and did report in stenotype notes the foregoing proceedings and that thereafter my stenotype notes were reduced to typewriting under my supervision.

I further certify that the transcript contains a true and correct transcript of my stenotype notes taken therein to the best of my ability and knowledge.

SIGNED this 19<sup>th</sup> day of JANUARY, 2011.

Delores M. Green  
Delores M. Green