U.S. DEPARTMENT OF LABOR

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ADVISORY COMMITTEE ON CONSTRUCTION SAFETY AND HEALTH

U.S. Department of Labor

Room N-3437 A/B/C, Frances Perkins Building

200 Constitution Avenue, N.W.

Washington, D.C. 20210

Thursday, December 15, 2011

8:05 a.m.

Diversified Reporting Services, Inc.

(202) 467-9200

COMMITTEE MEMBERS PRESENT:

EMPLOYEE REPRESENTATIVES:

Erich J. (Pete) Stafford, Chairman

Gary L. Batykefer

Walter A. Jones

Laurie A. Shadrick

Gerald Ryan

EMPLOYER REPRESENTATIVES:

Michael J. Thibodeaux

Kevin R. Cannon

Thomas Marrero

Daniel D. Zarletti

William E. Hering

STATE REPRESENTATIVES:

Charles Stribling

Steven D. Hawkins

PUBLIC REPRESENTATIVES:

Letitia K. Davis

Jewel Elizabeth (Liz) Arioto

FEDERAL REPRESENTATIVES:

Matt Gillen

DESIGNATED FEDERAL OFFICIALS:

Ben Bare

COMMITTEE COUNSEL:

Sarah Shortall, Counsel

C O N T E N T S

FULL COMMITTEE AGENDA, DECEMBER 15

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(All exhibits were entered into the record on page 21.)

P R O C E E D I N G S

(8:05 a.m.)

OPENING REMARKS/AGENDA

CHAIRMAN STAFFORD: I'll call the meeting to order. Good morning. My name is Pete Stafford. I am an employee representative on ACCSH representing the Building and Construction Trades Department of the AFL-CIO, and we welcome you here this morning.

This is also my first meeting as chair. I'd like to start off saying it is my honor to be a chair of this committee and work with my fellow ACCSH members and everyone in this room today.

Congress intended for this committee to guide OSHA on matters of regulation and policy, and we certainly intend to do that, but also we have issues that we will discuss that are short of regulation or while we are waiting for regulation on how we can move information out to the industry about the hazards we know and how to prevent them.

For the purposes of those discussions, we have listened to the work groups, and everyone's comments on these issues would be welcomed.

With that, we have a quorum here today. Let's start by self introductions starting to my right.

MR. BARE: I'm Ben Bare. I am a Deputy in the Directorate of Construction and the DFO for the Advisory Committee.

MR. HAWKINS: My name is Steve Hawkins. I'm with Tennessee OSHA. I'm an ACCSH member representing public safety agencies.

MR. BATYKEFER: Gary Batykefer with the Sheet Metal Occupational Health Institute, ACCSH member, employee rep.

MR. RYAN: Gerry Ryan, Plasterers and Cement Masons International Union. I'm an employee rep for ACCSH.

MR. ZARLETTI: Dan Zarletti with Road Safe Traffic Safety in Chicago. I'm an employer representative with ACCSH.

MS. DAVIS: Letitia Davis, Massachusetts Department of Public Health, and I'm a public rep.

MR. THIBODEAUX: Mike Thibodeaux, NAHB, employer rep.

MR. GILLEN: Matt Gillen, NIOSH, Construction

Safety and Health, and I'm a NIOSH Federal rep.

MR. CANNON: Kevin Cannon, The Associated General Contractors of America, employer rep.

MS. SHADRICK: Laurie Shadrick, Plumbers and Pipefitters, ACCSH employee rep.

MS. ARIOTO: Liz Arioto representing the public, Elizabeth Arioto Safety and Health Consulting.

MR. MARRERO: Tom Marrero, Zenith Systems, National Electrical Contractors Association, employer rep.

MR. HERING: Bill Hering, SM Electric, Matrix, and the Association of Union Constructors, and also an employer rep.

MS. SHORTALL: Sarah Shortall, Office of the Solicitor, ACCSH counsel.

CHAIRMAN STAFFORD: Thank you. We'll start in the back. We'll start with our good friend, Scott Snyder, in the back. If you could please state your name and who you represent.

(Audience introductions.)

CHAIRMAN STAFFORD: Thank you very much, and again, welcome.

We have a full agenda over the next day and a half. We will have Dr. Michaels who will be joining us this morning. We will take a break after that.

We have to be a little flexible here. One of our presenters will be here, but we have a little technical issue, so it will take a few minutes between that time after the last presentation before we get that set up, so you will have to bear with us.

I'd like to turn it over to Ben Bare, who is our designated Government official, to make a few announcements, and one of the things we had talked about in terms of coordinating this meeting is we could start each meeting out, starting today, talking about them, and then we will address the recommendations made by this committee at its last meeting and the actions that OSHA has taken on those recommendations.

With that, Ben, please.

UPDATE ON OSHA'S OUTREACH EFFORTS AND ENFORCEMENT

MR. BARE: Okay. Thank you. I want to welcome the committee here to our DOL Building and to the Nation's Capital, wish all of you happy holidays and your families.

In case we have an emergency situation and we have to evacuate the building, I'd like to just review those emergency procedures with you.

We're located in Room N-3437 in the Frances Perkins Building. This is a designated shelter place. Should the audio alert be issued advising a shelter place, we will be required to stay in this room.

I've been advised there is ample food and gourmet type treats some place here. We haven't found it yet. We will be looking for it.

If there is an evacuation declared, a very loud continuous alarm will sound. Once you hear the alarm, you must evacuate the building immediately.

ACCSH members and the public attendees must walk to the marked exit in this room. They are on my right. Upon exit, turn left or right and use the first exit door in the hallway to travel down the stairs. Please do not use the elevators, and proceed to go out of the main lobby exit doors. Once outside, get away from the building.

The Directorate of Construction is located at D Street and Louisiana Avenue at the Japanese Memorial.

If you wish, you are welcome to hook up with us at that location.

If there is anyone here with special needs, that you will need to use the elevator to evacuate, let one of our staff know, and we will be happy to assist you or make sure you have assistance in evacuating.

As a point of interest, I just wanted to welcome Gerry Ryan or Gerald Ryan. He is the Director of Training, Health and Safety, for the Plasterers and Cement International Association, Masons International Association. Welcome, Gerry, to your first meeting.

MR. RYAN: Thank you.

MR. BARE: There are a lot of sights and sounds around. This is the Xmas season in the Nation's Capital. If you have time, be sure to take advantage of that.

There is a very interesting scaffolding job being done at Union Station. That might be of interest for some of you to see.

As you can see, we have a very full agenda ahead of us. As a point of interest, the Agency is soliciting new ACCSH members. That announcement

appeared in the Federal Register on November 23. Copies of that Federal Register announcement can be found at the handout table in the back.

With that, I'd like to just briefly go over the motions and action items from our last meeting on July 28.

There was a motion that the Prevention Through Design and Green Jobs' Committees be combined into one work group. Those work groups have been combined.

There was another motion that ACCSH recommend that OSHA set up a backing operations hazards page on the OSHA website. DOC is working on the website page and has asked the work groups for their input. I think there will be some additional information about that tomorrow.

There was also a recommendation from ACCSH that OSHA translate residential construction fall protection guidance documents into Spanish.

As we heard yesterday, the residential fall protection PowerPoint and 12 animated construction video's are now available, five of which of the 12 animated video's are in Spanish.

The Spanish iteration of the PowerPoint is just about complete, but we are working on that and should have that in the next few days.

There was a recommendation that OSHA translate general guidance documents to Spanish. I think those two recommendations related to each other, so again, we have the guidance document for residential construction, the overall main document translated into Spanish for residential, and it is on our website.

There was a recommendation that OSHA conduct a direct final rule to update the construction PPE standards to mirror the general industry PPE requirements. OSHA is working on the first installment, head protection, through a direct final rule that is being proposed.

I think the Director, Jim Maddux, will expound on that and provide some additional information later in the meeting during our DOC update.

There was a recommendation that OSHA use the Women in Construction Fact Sheet developed by the Diversity and Women in Construction Multilingual Issues Work Group as an official OSHA publication on our

website.

While this is not complete, DOC's Danessa Quintero, is continuing to research this issue to develop a safety related fact sheet.

In addition, the work group will be tasked with review and comment on some of the animated video's which were discussed in the work group yesterday.

There was a recommendation that OSHA gather information for I2P2 rulemaking by holding stakeholder meetings with VPP and SHARP members to discuss developing and implementing an effective I2P2.

The Directorate of Construction is considering inviting a couple of state plan state representatives who have regulations on the books requiring employers to implement safety and health programs.

DOC is considering getting a construction VPP participant to review their input and provide information on implementing and managing a safety and health program from a construction standpoint.

There was a recommendation that OSHA initiate rulemaking establishing or addressing reinforcing steel and post tensioning. Their request for information, an

official document request for information, went to OMB on November 3 for their review.

Back over and reinforcing issues were combined. However, they are on a separate track, but they are combined, so we have completed that recommendation.

That's it for the update that I have.

CHAIRMAN STAFFORD: All right. Thank you. Any questions for Ben?

(No response.)

CHAIRMAN STAFFORD: Our colleague from the Kentucky Labor Cabinet has made it. Chuck, would you mind introducing yourself?

MR. STRIBLING: I apologize. Good morning. My name is Chuck Stribling, Kentucky Labor Cabinet, and obviously, a state representative.

CHAIRMAN STAFFORD: Thanks. Ms. Shortall, any administrative issues?

MS. SHORTALL: Yes. I have a few. First of all, all the exhibits from this meeting will be entered into the public docket for the meeting, which is Docket No. OSHA-2011-0124. The Docket number is also

identified in the Federal Register Notice of this meeting.

The first two exhibits I'd like to enter into the record are as Exhibit 1, the agenda for the December 15-16 ACCSH meeting, and as Exhibit 2, the agenda for the December 13-14 ACCSH work group meetings.

(Exhibits No. 1 and 2 were marked for identification.)

CHAIRMAN STAFFORD: Okay. Thank you. Let's go ahead and get started with the agenda.

For the last two days -- you know under ACCSH, we have six active work groups going. For the next day and a half, we will have the reports from these work groups.

We'd like to start this morning -- I'm sorry. As a reminder, for anyone that wants to make public comments, we will have a period at the end of the day and at the end of tomorrow, depending on the timing.

For that purpose, there is a sign-in sheet in the back. Please feel free if you want to comment to

sign that sheet.

With that said, let's go ahead and start with our first work group report this morning, which will be our Diversity Work Group. Our co-chairs, Liz Arioto and Laurie Shadrick. Please.

DIVERSITY AND WOMEN IN CONSTRUCTION

MULTILINGUAL ISSUES WORK GROUP REPORT

MS. ARIOTO: The first sheet is the attendees that attended the meeting. We opened it with a welcome and self introductions. The minutes of the July 27, 2011 meeting were reviewed.

I do apologize if you find some typo errors in this report. I was working on it this morning, so you may find a few. Please forgive me.

CHAIRMAN STAFFORD: That's okay. None of us don't read very well anyway, Liz.

MS. ARIOTO: Mr. Maddux talked about the animated video's that are now on line in either English or Spanish. This is the first part, how do we like them and how to expand on them if possible.

Mr. Mark Hatch presented an animated video that is on the OSHA website. He explained how they

came about, and there are 12 of them on line. They are available on YouTube. There were over 57,000 hits since released, and he had 13,000 downloads.

Discussion was held on the standards across the country and how they are different. Mr. Steve Hawkins and Mr. Chuck Stribling discussed about each state and their rules and regulations.

The work group was asked to bring to the next ACCSH meeting training materials to review for discussion.

Mr. Gerry Ryan stated he likes real pictures. Dr. Christine Branche said NIOSH had some real pictures that we might be able to use. The work group stated that they liked the pictorials.

The ISSA's, International Social Security Administration, pictures provided information, and we may be able to use them for information data to reference.

Information was distributed to the group including CDs and informational packets.

Mr. Chuck Stribling brought up the discussion on how these were distributed nationwide through OSHA.

Ms. Danessa Quintero spoke about the development of different types of materials for the work group. Example, animated video's, pictorials, and she thought both were good.

Letitia Davis and Mr. Gerry Ryan reiterated the fact that it is the employer who is responsible for the health and safety of the workforce, and the fine line with workers' rights.

Danessa spoke about the Women in Construction web page, and what was needed to go forward. She talked about the items available for putting them on-site, which included health alerts on health and safety training and PPE on toilet facilities, which were handed out.

At this time, I'd like to thank Scott Schneider for giving it to the work group to work on.

These can be linked to the new site that is being developed.

A handout was given out on women trade organizations that can be addressed for many purposes. We hope to have these reviewed and discussed at the next meeting.

Sanitation was brought up again and the rationale for separate bathrooms. The SIP IV was mentioned.

Steve Hawkins reiterated that the issue has been on the board for many years. Mr. Ben Bare mentioned that what the committee needed at this point in time is health and safety in sanitation. Bill Hering stated that separate bathrooms worked well in his company.

We handed out a chart, and Danessa Quintero spoke about female construction fatality data and the highway worker incidents. The flaggers were mostly women and had a higher death rate.

Mr. Pete Stafford stated that the sanitation issue has been on the books for many years. Mr. Ben Bare commented that sanitation does not rise high enough to make it to ruling.

Mr. Stafford stated that the work group could make a guidance document for sanitation to be sent to OSHA instead of a rulemaking document.

Mr. Stafford moved that the Diversity and Women in Construction Work Group request that ACCSH

recommend OSHA proceed with developing guidelines on sanitation in construction that incorporates the language of CAL OSHA's construction sanitation standard on separate toilet facilities for men and women.

The motion was seconded and passed unanimously. The work group was adjourned at 3:10 p.m.

CHAIRMAN STAFFORD: Thank you, Liz. Any questions for the work group?

(No response.)

M O T I O N

CHAIRMAN STAFFORD: Okay. We will need a motion to accept the work group's report.

COMMITTEE MEMBER: So moved.

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: Any discussion?

(No response.)

CHAIRMAN STAFFORD: Okay. All those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Are there any specific

recommendations that came out of the work group other than the recommendation for proceeding with guidelines, OSHA development of guidelines, Liz?

MR. HAWKINS: We did discuss making an official motion to ACCSH that the Agency develop guidance documents, as you stated. I think we have to make it in this meeting and have it voted on and seconded to forward it out of this committee. Isn't that correct, Sarah?

MS. SHORTALL: Yes.

MR. HAWKINS: Is that motion ready?

CHAIRMAN STAFFORD: Unless there's any discussion, that's what we agreed to yesterday in the work group. We will need a motion to that effect.

M O T I O N

MS. ARIOTO: As a work group we have a motion to OSHA that we proceed with guidelines on sanitation in construction that incorporates the language of CAL OSHA's construction sanitation standard on separate toilet facilities for men and women.

CHAIRMAN STAFFORD: Perfect. We have a motion. Is there a second?

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: Motion and a second. Any discussion?

(No response.)

CHAIRMAN STAFFORD: All those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Great.

MS. SHORTALL: Mr. Chair, at this time, I'd like to enter into the record as Exhibit No. 3, the approved Diversity and Women in Construction Multilingual Issues Work Group report from the December 14 meeting.

As Exhibit 3A, six examples of construction pictorial training aids. As 3B, the CAL OSHA Water, Rest, Shade DVD. 3C, CAL OSHA Water, Rest, Shade Discussion Guide for the DVD. As D, CAL OSHA Water, Rest, Shade Key Safety Fact Sheet in English. As E, the CAL OSHA Water, Rest, Shade Key Safety Fact Sheet in Spanish. As F, the CAL OSHA Water, Rest, Shade Key

Safety Fact Sheet in Punjabi.

As G, the CAL OSHA Water, Rest, Shade Key Safety Training Kit. As H, the CAL OSHA Heat Kills Quick Guide in English and Spanish. As I, CAL OSHA Water, Rest, Shade poster. As J, the CAL OSHA Lifting Safer pictorial poster in English and Spanish.

As K, the Laborers Health and Safety Fund of North America Health Alert, especially for women personal protective equipment. As L, the Laborers' Hazard Alert, especially for women health and safety training.

As M, the Laborers' Health Alert especially for women and on sanitary toilet facilities. As N, the updated list of construction trade organizations for women. As O, a list of women in construction organizations, and P, the OSHA IMIS data on fatalities by gender in construction and in highways, street and bridge construction operations.

(Exhibits No. 3 were marked for identification.)

CHAIRMAN STAFFORD: Thank you. Just let me

say a comment on this. For over a decade, this work group has been recommending to OSHA there be separate restroom facilities for women on construction projects.

We recognize now that OSHA just does not see this as a priority. It hasn't floated to the top. I think this work group and this full committee is adamant this is an issue that we continue to address, so that the next best step is that we can continue to have OSHA and ask OSHA to develop these guidelines to keep this on the burner because we all feel it is very important, even though right now it may not be a priority, it's an important issue just the same.

I appreciate the work and the recommendations of the work group.

I guess now, Jim, this is the time where we have to become a bit flexible on our agenda. We had Assistant Secretary Michaels scheduled next. He obviously is not here yet.

I don't know if Jim Maddux is still here, if we should go ahead and proceed with the Directorate of Construction report.

COMMITTEE MEMBER: Jim is not here right now.

I can go find him.

CHAIRMAN STAFFORD: First on the agenda is Assistant Secretary Michaels. The next report is report from the Directorate of Construction.

The third item is a break. I'm not sure we're quite ready for that.

At this point, Matt, please go ahead.

MR. GILLEN: I'm happy to do the Emerging Issues and Construction Health Hazards report, if you want.

CHAIRMAN STAFFORD: Okay. Walter Jones, would you mind introducing yourself?

MR. JONES: Walter Jones, Laborers' Health and Safety Fund of North America. Sorry, I had a slight accident on the way in. Of course, when you have an accident, the subways and everything else slows down on you. I split my pants!

CHAIRMAN STAFFORD: That's serious!

(Laughter.)

CHAIRMAN STAFFORD: Okay, Matt. I appreciate your flexibility. We will go ahead with your work group report.

EMERGING ISSUES AND CONSTRUCTION HEALTH HAZARDS WORK GROUP REPORT

MR. GILLEN: Walter is a tough act to follow.

(Laughter.)

MR. GILLEN: This is the report of the Emerging Issues and Construction Health Hazards Work Group.

We met on December 13 from 3:00 to 5:00 p.m. There were 22 attendees.

CHAIRMAN STAFFORD: Who is your co-chair, Matt?

MR. GILLEN: Gary Batykefer and myself are the co-chairs for that work group.

We had three agenda items. The first one was plans for a silica safe website. There should be copies going around.

Eileen Betit, with the CPWR Center for Construction Research and Training, described plans underway for a new website to be called "Silica Safe."

The purpose is to provide an one stop user friendly website with information on silica exposures and controls in construction. The primary audience

would be contractors and construction workers.

The site would post existing silica materials and would create some content to address contractor and worker needs.

Eileen walked through examples of sub-pages for contractors and workers along with a bulletin board and a partner section.

ACCSH members indicated they thought this would be an useful resource for contractors and workers. Several suggestions were provided.

These included the idea of including some information on highest exposure tasks, provide guidance on respiratory protection, utilize before and after video's of controls, provide information in multiple languages, include worker interview video's, include information for workers to provide their physicians.

A suggestion to further consider common search terms in finalizing the "Silica Safe" name was also provided.

Follow up plans include additional development and engagement of focus groups to further target needs and materials.

Next, we heard about fatalities among remodeling workers performing bathtub refinishing. Jerry Houvener of the OSHA Directorate of Construction and Dave Valiente of OSHA's Directorate of Standards and Guidance described recent cases of fatalities associated with over exposure to methylene chloride during bathtub refinishing operations.

Prior to 2000, only 1 of 42 known methylene chloride fatalities were reported to be related to bathtub refinishing. However, since 2000, 12 of 16 fatalities have involved this operation, suggesting a possible increase in interest in this process, and there may be some other things going on there.

Methylene chloride properties were described along with highlights from the OSHA standard, which is 1926.1052. For example, they commonly use half face and air purifying respirators and they are not allowed with methylene chloride.

Copies of the standard were provided to attendees.

The Michigan FACE program, again, FACE is fatality assessment and control evaluation, originally

identified this problem, and they recently developed and released an one page FACE Alert on this hazard, which OSHA described in a recent Quick Takes edition. A copy of the Michigan Alert was provided.

The presenters announced that OSHA and NIOSH are planning to jointly develop and distribute a hazard alert on bathtub refinishing hazards.

Discussion turned to how best to get crucial safety and health information to small and sometimes isolated employers. Several ideas were mentioned and discussed.

One suggestion was to work with suppliers such as Home Depot and Lowe's and others who sell these products. In other words, to reach out to trade associations such as The Professional Bathtub Refinishers Association.

Improved labeling and restriction of availability by analogy to products kept behind the counter was also mentioned. The value of linking OSHA area and region offices to state public health agencies via recent efforts to help communicate emerging issues such as this was described.

Last but not least, the role of enforcement was mentioned, but with recognition of the long-standing challenges to targeting health inspections in construction, and this was mentioned and discussed as well.

A last issue is we discussed decompression illness during tunneling operations. Dean McKenzie, the OSHA Director of Construction, provided an introduction to tunneling operations and health effects related to decompression.

Handouts developed by Dr. Nicholas Reul were provided to attendees.

Dean described how pressure is used to keep water out of underground construction sites and some of the history of tunneling, including development of OSHA Standard 1926.803.

Dean provided a general overview of how health effects related to the relationship between pressure and dissolved gases in our blood and how decompression causes gases to come out of solutions from bubbles, which in turn can cause a variety of potentially serious illnesses unless controlled.

Aseptic necrosis, which is a disease that affects the bones and the joints is an example of one of several decompression illnesses.

Several developments and issues were mentioned. The OSHA decompression tables only go up to 50 pounds per square inch and are for atmospheric decompression only, so they do not account for higher pressures or for use of oxygen or other gases.

At least one study found that the OSHA tables were not protective. Seven of 21 workers, 33 percent, in a 1982 study by Kinwohl, were found to have aseptic necrosis after work on a job governed by the OSHA tables.

Tunneling technology has changed and newer tunnel boring machines require smaller crews and fewer pressurizations. A recent Lake Meade job involved high pressures, up to 150 psi, thus requiring variances and approval of several decompression tables.

The work group identified a few options for addressing decompression table deficiencies. The issue might lend itself to the standard improvement program process, SIP, a standardized variance that could be

shared by OSHA and states could be developed, and an advisory committee with appropriate experts could be formed to advise OSHA and the industry on next steps.

Additional perspectives and ideas were expected to be triggered from the tunneling presentation scheduled for the full ACCSH committee on Thursday, today.

The meeting was adjourned. That's the end of the report.

CHAIRMAN STAFFORD: Thank you, Matt. Any questions?

(No response.)

M O T I O N

CHAIRMAN STAFFORD: We require a motion to accept the work group's report.

COMMITTEE MEMBER: So moved.

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: Any discussion?

(No response.)

CHAIRMAN STAFFORD: We have a motion and second. All those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Steve?

MR. HAWKINS: I just want to get a copy of the work group report.

CHAIRMAN STAFFORD: Okay. Thank you again, Matt.

As we go through these work groups and talk, and we have talked separately to OSHA, we're now talking about the development of a lot of different websites, which I think is a great thing.

We talked about a diversity website, now a website on backing operations, how we can move prevention through design information.

Ben, this may be a question for you or other DOC folks. Is there going to be any kind of issue in terms of resources that the committee has to consider in terms of the number of new websites that OSHA can establish or issues that we have to think about in terms of linking to different websites, any hurdles within OSHA as far as doing that?

It would be very helpful if we knew there was

only a limited amount of things that OSHA could do. I don't know, Ben, if you can answer that.

MR. BARE: I think Jim would be better to talk about that.

MR. MADDUX: Yes. You raise, of course, an important point. Jim Maddux. Director of Construction, OSHA.

You raise a good point. There is, of course, limited resources for any of this work. Anybody that reads the newspaper knows that the budgets are very uncertain. It's hard to tell what kind of resources we will have.

In many ways, actually doing web based products, like web pages or fact sheets, is actually less expensive than doing printed material.

For example, this last year we were very lucky to get actually quite a large number of printed publications that we were able to complete and get into circulation.

Yes, obviously there is a limited amount of resources for doing web pages, and at some point, we might have to prioritize, but in the long run, actually

wind up being much more cost effective in many ways because we can reach a large audience without the print budget.

CHAIRMAN STAFFORD: Do we need to have those considerations now, Jim, or do we assume the recommendations made on X number of websites will proceed?

MR. MADDUX: It might be interesting maybe at the end of the day tomorrow, maybe during one of the closing sessions, to list those out and see if we have some priority scheme. That would be very helpful.

CHAIRMAN STAFFORD: Okay. I appreciate that. Tish, please.

MS. DAVIS: Tish Davis. Yesterday we heard an interesting finding about how the public was accessing the new video's, and more, I think, were accessed directly through YouTube than through OSHA, and it seemed to vary by Hispanic ethnicity.

It raised an interesting question about who comes to the OSHA websites and whether there are barriers to using those websites, so other ways of getting information out need to be explored.

I thought that was a very interesting finding.

MR. MADDUX: Yes. You raise a good point. We certainly have a very large amount of traffic on our OSHA website. Millions and millions of hits.

I think everybody is familiar about our nail gun document that we co-produced with NIOSH earlier this year. That document has been downloaded or accessed on the OSHA website, 250,000 hits in about eight weeks.

Yes, there are probably some limitations. I think we probably have some difficulty still with video. The amount of -- it's hard to tell the exact impact, but certainly the number of touches is phenomenal.

MS. DAVIS: Thank you.

CHAIRMAN STAFFORD: Thank you, Jim.

On a second issue, Jim, in terms of OSHA's ability to link to different websites, are there obstacles or concerns that we need to think about as we move forward?

For example, on the Diversity Work Group, development of a website and linking to the Laborers'

Health and Safety Fund, who has a lot of information on women issues in construction.

Are those obstacles that need to be considered?

MR. MADDUX: I don't know if I'd call them "obstacles." We do have a policy for linking to external websites. There is great care taken to make sure we are not linking to websites with political content.

I think there are seven or eight criteria. If the committee is interested, we'd be more than happy to distribute that policy so that people understand kind of the limitations of what we can do.

CHAIRMAN STAFFORD: I think that would be helpful for us certainly. Thank you.

I guess while you're in the hot seat, we can go ahead and proceed with your report. We have to be flexible, Jim. I don't know what time Dr. Michaels will be here. If he comes in the middle, we will move things around a bit.

MR. MADDUX: David is loading me up now, I think.

MS. SHORTALL: While Mr. Maddux is getting ready for his presentation, I'd like to enter into the record as Exhibit No. 4 the approved Emerging Issues and Health Hazards in Construction Work Group report from the December 13 meeting.

As Exhibit 4A, the Silica Safe website PowerPoint presentation by Eileen Betit. As 4B, the methylene chloride paint stripping agents and bathtub refinishing jobs' PowerPoint, presentation by Jerry Houvener and David Valiente.

As C, the Michigan fatality assessment and control evaluation bathtub refinishing hazard alert.

As D, the MIFACE investigation and research on methylene chloride cause of death of three Michigan bathtub refinishers.

As Exhibit 4E, the MIFACE investigation report number 10MI013, subject "Tub Refinisher Died Due to Methylene Chloride Over Exposure While Stripping a Bathtub."

As Exhibit 4F, OSHA methylene chloride publication number 3144-06R. As G, methylene Chloride topics page on OSHA's website.

As H, a copy of the under pressure hyperbaric construction safety regulation, 21st Century PowerPoint by Nicholas Reul, University of Washington School of Public Health.

As Exhibit I, a copy of the script for the under pressure hyperbaric construction safety regulation for the 21st Century PowerPoint by Nicholas Reul.

(Exhibits No. 4 were marked for identification.)

CHAIRMAN STAFFORD: Thanks, Sarah.

Jim?

DOC REGULATORY UPDATE

MR. MADDUX: I'd just like to open up by obviously thanking the committee. You guys are doing a great service and we appreciate the work that you are doing.

The committee not only is very, very helpful in terms of the advice that it gives, but also another way that we can communicate with the construction industry and construction workers.

We appreciate all of your efforts.

I'd also like to make a really huge thanks to the OSHA staff that work for me that help to support this committee. Ben, Fran Dougherty, who helps to coordinate a lot of our meetings. We have liaisons for each one of the work groups that put in a lot of effort to try to make sure that everything goes smoothly and everybody has the resources that they need.

Of course, Sarah Shortall, who keeps us all on the straight and narrow in terms of the Federal Advisory Committee Act and how things are supposed to go. We would be lost without her.

What I'd like to do today is give you a little bit of an update on our standards activity, a little bit of enforcement, some of our guidance efforts, and some outreach things that we have going on.

As most of you know, I kind of have a stat background, so I almost can't avoid doing a little bit of numbers' talk, no matter where I go. I'll avoid the lecture on the 300 today.

Construction fatalities have declined. When you look at the BLS fatality statistics, it went down a

lot in 2008, again, a very large amount in 2009, and then a little smaller decrease in 2010. This is largely attributed to the decline in the construction industry in these difficult economic times.

I'm sure that's right. I think it's also worth noting the rate. From 2008 to 2009, the rate stayed almost the same, 9.6 to 9.7. In 2010, we had a little bit of a decline in the rate.

That is really a positive sign when we actually have the rate of fatalities declining, and that's what I'm hoping we can build on as the economy improves and as construction starts to come back, that we will find some safer work practices during this slow down that we can promote and get into effect as things improve.

There is some interesting work that was done by Glen Shore. Glen works for the State of California in their Workers' Compensation Department. He's been on loan to us for about a year and a half now.

He was able to do some very interesting research with the database for the National Council of Compensation Insurance.

He focused on a couple of occupations. These data like all data, of course, have some limitations. I believe they include information from about 38 states. They are lost time claims, and that lost time means whatever the Workers' Compensation for that state considers lost time. Sometimes it is one day. Sometimes it is there. Sometimes it is seven. You just have to take whatever the data is you can get a hold of.

It's very interesting. A lost time claim for a roofer that falls from elevation, $106,000 per fall. These are huge numbers, even in this database, which is not complete, 1,500 injuries, the total numbers are massive.

I think people often times focus on the cost of providing the safety and health or of implementing this activity or that activity, and we need to keep in mind not only the human toll of these accidents, but also they have a huge monetary cost on companies, on the employees, and on the country.

The second occupation that Glen focused on was carpenters, which came in at almost the same dollar

value, slightly less, at $98,000.

For both of these, interestingly enough, these are cases where people were losing time from work and usually quite a bit of it, the wage replacement is actually much less than the medical care cost.

I just pulled two slides out of Glen's work. He has a short slide presentation with 10 or 12 slides. We are going to post this up on our construction internet page so the public can also access this information and have some ability to get into it.

Getting into the standards, we have two items in the pre-rule. The first one is an RFI for backing operations and for reinforcing and post tension steel.

These are both significant safety issues. Backing operations results in probably over 50 fatalities per year. We're not sure how many serious injuries yet, but I'm sure it's a fairly large number.

Reinforcing steel has two or three fatalities per year it looks like. We're still looking into the numbers.

We're going to be requesting information to see whether we should move forward into serious

rulemaking and to get ideas for what needs to be addressed, what are some of the issues that are involved, so we can be well informed if we decide to do so.

We also have several final rules that are focused on construction. Of course, the biggest one here is confined spaces. I think people know the confined space proposal was actually issued well before the crane proposal.

We set that aside to focus on the crane issues that were very, very important. Now, we are picking up again and trying to get a confined spaces rule into clearance hopefully in the next month.

The other three rulemaking's are relatively small. They are all follow up's from the cranes and derricks' standard. One is to make sure that cranes and derricks in underground construction and demolition are covered by the new standard.

Because these two industries were not proposed in our original proposal, at the final rule, we took the old crane standard, recodified it as Subpart DD of the 1926 standards, and it only applies to these two

industries.

It would be much more preferable to have one crane standard that applied to everything.

We also have one of our lawsuits, we had a lawsuit from the Edison Electric Institute. We have gone into a settlement agreement with them, and as part of that, we have agreed to do some rulemaking on the exemption for digger derricks that are used to dig holes and set poles in the utility and telecommunications industries.

We have a technical correction which is just going through and trying to take care of some typographical errors and so forth that are in the rule.

We also have a number of things that are in pre-rule. The heading of this slide is not quite correct. Some of them are in the Directorate of Construction and some are in the Directorate of Standards and Guidance.

Modern Records is an effort that Dr. Michaels has been a real proponent of. This has to do with kind of the time lag on our data.

We did injury and illness data compiled by the

Bureau of Labor Statistics, by the time that it's published, it is almost two years old.

The idea here is can we come up with some kind of a greater frequency of reporting so we can keep a better handle on what's going on with injuries and illnesses closer to the time they occur.

When you look at the economic stats that the Government publishes, unemployment, Consumer Price Index, GDP, all of those sorts of things, they are monthly or quarterly. They don't come out once a year or nine months later. That would be too late for policy makers to figure out how to adjust.

In safety and health, we haven't gotten to that point.

Injury and illness prevention programs. That rulemaking, the next step is to initiate the small business panel that's required by the Small Business Regulatory and Enforcement Fairness Act. We're still working on preparing for that and getting ready to go into that process.

SIP IV, standards improvement project, is a project that goes through and tries to make some

corrections to the standards. Paul Bolon will be giving a presentation on that later today.

This is something that is coming out of the Directorate of Construction. The other three SIP projects focused on safety and health issues. There were a few construction issues that got involved.

This one is going to focus primarily on the construction standards, and places where we need to make some fixes.

It is a good opportunity to deal with a lot of relatively small issues that may not rise to the level where they would actually get their own rulemaking, and of course, the standards are now 40 years old.

A lot of them were adopted when OSHA was first formed. Some of them have fallen quite out of date. In some cases, they are redundant or duplicative or simply don't make sense. It's a good chance to look at those issues.

The last one here is the protective head wear consensus standard, what we call "hard hats" in the industry. This is a rulemaking that affects both the 1910 and 1926 standards. A relatively small rulemaking

to simply bring those standards up to where they reference the most recent consensus standards for head protection.

This is coming out of our Directorate of Standards and Guidance. We will have a presentation later today from Paul Bolon and joined by Ted Twardowski from our Directorate of Standards and Guidance, who is actually the project author.

We are hoping to get some feedback from the committee so we can move forward on that rulemaking.

The Directorate of Standards and Guidance has a number of rules that are going through the process. Hazard communication, the globally harmonized system for chemical hazards and such, is at OMB, and is under review. It's moving along nicely.

Electric power generation and transmission, what we call Subpart V in OSHA Speak, is still being worked through here in OSHA, and should be going into clearance soon.

(Mr. Maddux's presentation to resume upon completion of Dr. Michaels' presentation.)

CHAIRMAN STAFFORD: Good morning, Assistant

Secretary Michaels. It is good to have you. We have flexed the schedule a little bit, so we appreciate you coming in. We will turn it over to you.

PRESENTATION BY ASSISTANT SECRETARY DAVID MICHAELS

DR. MICHAELS: Good morning. Thank you all. Thank you for your consideration and your flexibility.

As you know, today is a little bit of a difficult day. We have two advisory committees but also we are in planning mode in case there is no budget passed in the next couple of days, that will have an immediate impact on us.

We're going through the activities to prepare for the stopping of funds, so you will see a lot of activity around here today unless the situation is resolved later today. We'll see what happens.

Jim, thank you for your flexibility. Pete, thank you for taking on the role of chair of this very important committee. Very grateful for your willingness to do this.

This is an extremely active, thoughtful and important committee to us. You do a terrific job. Your work groups have been very, very important in

helping shape our activities, and you continue to do great work. I appreciate everything you do.

What I thought I would do is just come here and give you a little update on what we are doing in a number of areas that really relate to the areas on which you give us advice and get some input from you, take some questions.

Your input, we are getting all the time, but I guess I'm interested in if you have any thoughts you think I should hear directly.

I have put together a little PowerPoint, just to give you sort of an update.

We have just finished the fiscal year at the end of September. In terms of inspections, we are pretty much at the same level. We're doing the same number of inspections we did last year.

Some of our inspections are taking longer. Health inspections take longer than safety inspections. We're doing more health inspections, inspections that involve investigations into recordkeeping, which also take a great deal longer. They take many more hours.

We are at about the same level that we have

been at in the last couple of years.

The percentage of programmed inspections, inspections that we plan in advance, we say this is a specific area that we are going to target, has gone down slightly. The un-programmed inspections have gone up slightly, "un-programmed" being complaints, fatalities or referral driven.

Specifically, the percentage of complaints has gone up. Obviously, that means the number has gone up as well, too, because the total number is about the same.

We're getting a slightly larger higher number of complaints. As you know, we don't respond with sending inspectors to all complaints. We triage them. We actually are going out on more inspections based on complaints. Not a big difference, one percent more.

The percentage of construction inspections, construction inspections as a percentage of all inspections, also has gone down slightly, from 60 percent to 56 percent.

Part of that is a reflection of some of our emphasis programs in some other areas, as well as

complaints in other areas.

A big change that we made last year, last fiscal year, was to make some changes in the way penalties are calculated. That has obviously had an impact.

Let me say for all of these numbers I've shown you and this number, we believe they are correct. We are also in a transition period, moving from one data collection system to another.

The new system that we're rolling into place, our OSHA information system, we rolled it out in several of our regions in the second half of fiscal year 2011, and so we have combined the two data systems to get these numbers, and there are still some bugs in the system. We think they are just about right.

We will know in a few months. I don't think we will see any major changes, but I want you to know, you may at some point see a number that's slightly different than some of these.

In any case, we changed the way we calculate penalties some time last year. We thought the penalties in many cases were too low.

Congress sets the maximum penalty, $7,000 for a serious violation, $70,000 for willful. We rarely talk about willful and repeat violations. For the serious violation, it's $7,000.

We modify our penalties on many bases. For small employers, we always modify our penalties. For good faith and the history of inspections showing no violations or no history of having violations, we reduce our penalties.

We changed the percentages in that and the way we calculate it, and as a result of that, the average penalty has pretty much doubled in size. Still quite low.

We give out citations associated with fatalities, for a few thousand dollars. I'll sign a letter to a family member of a person who has died in a terrible incident in a workplace, and the penalty will be $3,500 or $4,000.

We give out citations and penalties not because a person died but because there were violations of the OSHA law.

We know penalties have an impact, and we will

talk about that a little later. We have to maximize the impact of our penalties because we're trying to focus not just on the employer who we gave the citation to, but the whole industry.

We have raised the penalties. They are still far lower than most regulatory agencies. They certainly have had an impact.

What they haven't done is increase our contest rates. This was very interesting to us. As you know, other agencies have had significant increases in contest rates following an increase in penalties.

We have seen a very, very tiny if any increase in our contest rate as a result of these changes in penalties.

We know there are some employers who this is causing great difficulty with, and we work with them and we try to find payment plans. We give them various reductions.

Our regional staff has some ability to reduce penalties further. So far, I think we are doing okay with that.

The number of significant cases we have issued

increased last year, but it's worth noting that our cutoff point on significant is the $100,000 level of penalties, multiple citations, multiple penalties, to reach $100,000 or more.

Because we have changed the way we calculate, this probably is not a very useful figure in terms of it doesn't represent more enforcement or more hazards, but in fact a different way we calculate the penalties.

You can see that to some extent in the egregious cases. The egregious cases went down from fiscal year 2010 to 2011. Egregious cases are those cases where we see the employers really had wanton or disregard of the health and safety of their employees.

That is driven not only by our penalty structure or by our enforcement of policies, but what we find in the field.

Last year we found fewer of those cases than we did the year before.

We always put this up. I think it's of great interest to observers of OSHA and people who are stakeholders, just to know what the top ten standards are.

As you can see, the first four all relate to preventing injuries and fatalities related to falls. This has been consistent from year to year.

Any questions before I go on? This is my enforcement wrap up. Obviously, our staff is around and they can answer questions at any point also.

(No response.)

DR. MICHAELS: Some of the other activities. We continue to work very hard on our injury and illness prevention programs initiative. You all have been very, very helpful in this.

We have a web page up. We are getting more information out. We are preparing to move toward a standard, but we know that takes a long time. What we are doing is working with employers and telling them this is something that you can do now, there is no reason to wait for OSHA to issue a standard.

The evidence is very clear. We know from numerous states and their successes in mandating some form of injury and illness prevention program. Obviously, this is something that is not a surprise or not a mystery to many employers, that they understand

this. They know it works.

One group we are particularly dedicated to working with who have embraced the injury and illness prevention program concept is the Department of Defense.

They recognize the importance of safety and health management systems to protect the health and safety of their civilian employees and also their Uniformed Services, our soldiers, airmen, sailors, who are better protected because all of the Services have embraced injury and illness prevention programs at many bases.

It is not equal across the Services. It's not equal across the bases. Every Service and every base is moving toward it.

I visited Tinker Air Force Base recently in Oklahoma, which is a huge operation. It's tens of thousands of workers involved in rebuilding primarily the engines, but even the entire fighter planes and bombers that are used in Iraq and Afghanistan.

They have a terrific program and they have driven down their injury rates dramatically.

You can see it from these numbers. This is from before the Defense Department decided to implement injury and illness prevention programs and get involved in a voluntary protection program.

Everyone in the Services has seen impressive decreases in injury rates.

Our position is look, if we can use this, we do this to support our troops, we use this to support our civilians who support our troops, and we should do this for every worker in the country, who deserve this sort of protection.

Obviously, an area that we have worked a great deal on and you all have been extremely helpful, residential fall protection.

Over the last year, we have gone through the process of changing our enforcement directive, and the exemption of residential construction from our fall protection standard is over. We announced that last year.

We have tried to ease in or to phase in our enforcement activities. Initially, we delayed enforcement. We did a tremendous amount of education.

We met with many trade associations and different groups, particularly in home building and in roofing, other groups, unions, et cetera, who represent workers, helping people understand what's going on and how to protect workers with the residential fall protection.

Our Director of Construction, and I thank Jim and his staff, have done a great job putting our materials, and have done many, many dozens of meetings with different groups around the country explaining what we do. Site visits to residential construction sites in many states.

Currently, we don't have our policy fully in effect yet in that up until March, we had a number of different activities to help again make this transition. We are offering a further reduction and we will apply further reductions in penalties for things like good faith.

If we find a violation of the fall protection standard in the residential home builder who didn't understand the changes that were necessary or didn't know about this but was acting in good faith, we'll

give them another ten percent reduction in penalty.

We also will essentially not cite them somewhere else in the next 30 days if we see the same hazard elsewhere because we know they're just getting up to speed to learn.

We have also made it clear that this is a priority for our compliance assistant specialists and for the state consultation projects.

If any employer in residential construction or residential repair needs more information, we want them to get that information to protect workers.

We are seeing a very positive transition. We are hearing from contractors around the country that they have figured out what they needed to do. There always was so many of them -- you told us this -- there are so many contractors who do both residential and commercial construction, so they have known what to do. Other ones just didn't realize how easy it was or what they needed to do.

Of course, the instant OSHA says you have to do things in different ways, people are resistant. We understand that. That's human nature.

Our impression is, and we hear this all around the country, the contractors are coming around. They see they can do this. It's not stopping their work. It's relatively inexpensive. It's doable.

We are very grateful that all of you have helped us and the DOC has done such a great job on this.

We continue to work on noise. Again, this is an area that you all have been very helpful on. We had a focus group -- not a focus group -- a stakeholder meeting not long ago, where we talked about noise.

We explained the OSHA policy, which wasn't well understood. We want to ensure that employers reduce their exposures to noise by 3 dB. If we can get them there, that's really cutting exposure in half.

We are not insisting employers get down to 85 or 90, but just keep reducing their exposures, as well as if they have exposures that are above the limit or above the requirements, they have to have hearing conservation programs.

I think that was a very successful meeting. There was a great deal of unanimity among all the

attendees from trade associations, unions, the professional, academic and technical communities, all recognized this was an area we could all work together on, that we needed to drive down noise exposure that was unacceptably high.

One of the things that was discussed, which I think was a surprise to many of the people who attended the stakeholder meeting, was because OSHA has such a weak enforcement policy around our hearing protection standard, U.S. companies are less likely to manufacture quiet machines.

In Europe, which has much stronger noise protection standards, manufacturers there manufacture quieter machines.

If you want to buy quiet, if you want to ensure the hearing of your employees, you really have to look to Europe. That's unfortunate for the United States' manufacturers. We think that ought to change. We ought to be producing machines here that are quiet because we need those here.

That's an area we continue to work on. I think we are making some progress. Again, thank you

for your work on that.

Finally, the area that every one of you, I think, has played a major role in, and we are so grateful, the huge Heat Illness campaign that we had over the Summer.

As you know, OSHA has no heat standards. California has one. Washington has one. OSHA has no standard.

In the Summer, every Summer, dozens of workers die of heat related illnesses. Construction workers make up a large portion of that group. Agricultural workers, the other big sector. It happens across the board.

If you're working outside in the Summer, especially as our summers appear to be getting hotter, people are at risk of heat and heat related illness and heat fatalities.

It's true not only for workers who are not in shape, who may be overweight, who are hypertensive.

We have seen over and over again young healthy men, former high school football players. They get a job. They're out there. They're working hard. They

say this is no big deal, I can do it, but they don't hydrate, they're not in the shade, and some symptoms come on, they just try to work through them, and unfortunately, they die. We have seen this too many times.

Across the country, we worked on getting the message out that this is unnecessary. There is a very simple fix here. We say three words "water, rest and shade."

The Secretary of Labor, Hilda Solis, took this on personally and did big public meetings in Florida, California, Nevada and Arizona, talking to workers about heat and what we could do.

We have lots of great materials in English and Spanish. We put out a Smart Phone app. We hooked into NOAA, the National Oceanographic and Atmospheric Administration, to give people information about what to do at different levels of heat.

NOAA and the National Weather Service also put out warnings. Every time they put out an extreme heat warning, they actually included a message from OSHA, telling people to be careful, to reschedule work if

necessary.

It was a great campaign. We're very proud of it. We actually were given a major award from the Association of Marketing and Communications Professionals. We got the Platinum Award, the highest award for public awareness campaign.

Well, this is no big deal, but the other awardees were the show Jeopardy for the show Watson vs. the Champion. The other awardees were very major campaigns. You have heard of AFLAC.

Many, many Government agencies applied and one other U.S. agency, the Air Force, got a Platinum Award. No other ones did.

We were very, very proud of this. It turns out to be a very big deal. They saw this campaign and how effective it was. We were pleased with that.

Thank you all for your work on that. This really did make a big difference. I think it saved some lives.

Our work with you has very much contributed to this important publication. This is the first of the re-branded or dual branded NIOSH/OSHA publications on

nail gun safety. Many of you contributed to this and looked at it and gave some advice.

I think it's a terrific piece of educational material. We will be doing more with NIOSH. The idea is OSHA and NIOSH should be working closer together, putting out good materials, not just for professionals, but for workers. This is our sort of co-branded publication, the first on nail gun safety.

The final area I want to talk about is a new focus of ours, which is measuring our effectiveness. This has been of great interest to us, certainly since I came to OSHA, I have been trying to move us in this direction, which is to say how do we know what we are doing is effective.

OSHA has many, many approaches, many strategies. We just talked about we do enforcement, we do compliance assistance, we do these initiatives.

You can't say is OSHA effective or not but are our specific activities effective, and essentially how effective are they. We don't want to waste the taxpayers' money by doing things that don't have an impact, and how do we ensure that with our very limited

resources, we have the biggest impact or the most effective, we save the most lives, we reduce the most injuries, we get the most information out.

There are a lot of ways to measure effectiveness, but we have to begin to think about that.

A lot of our work has to be based on the literature that experts have already provided us. There are relatively few but there are some very good studies out there that told us a lot.

One I want to just bring up because I think it's really interesting, a paper that came out recently, What Kind of Injuries Do OSHA Inspections Prevent.

This is exactly the sort of study we want to encourage, they look at very specific things we do and what's their impact.

This just came out. You will recognize several of these names, John Mendeloff and Wayne Gray, researchers who have been looking at OSHA for 20/30 years and doing some very important research that we'd like to encourage.

This was an interesting study. We can get this around. You don't have to try to read this here.

Essentially what it said was when OSHA does inspections, the impact on injury rates, in this case, in manufacturing, was associated with inspections with penalties. If we didn't issue penalties, it didn't have an effect.

It turns out that the violations and the penalties that had the biggest effect were for violations of the personal protective equipment rules.

What is hypothesized here is the PPE rules are in some ways the surrogate for having a program, having an approach by the employer, to look at all their problems.

It turns out that the decrease of injuries related to citations of the PPE rule were not specifically related to PPE. In other words, musculoskeletal conditions went down.

Employers who had a citation for a PPE violation the next year had fewer people hurt with musculoskeletal conditions, even though the PPE rule has nothing to do with musculoskeletal conditions.

In other words, you have an employer who gets a citation for any number of things, but particularly PPE. They then focus on the hazards in their workplace, and they reduce them.

It really shows the impact. This is consistent. This is the second study that showed the same thing using totally different databases. It's quite convincing.

It says here on the last page "Some inspections spur managers to undertake safety measures that go beyond compliance with standards."

These injuries that were prevented were ones we have no standards for.

We'd like to encourage that sort of study to be done, but also we're taking on studies ourselves. We got some money in our budget. We received some money. Essentially, the Department now has a Chief Evaluation Officer and an Evaluation Office that does these things.

We are starting on what I think is a very exciting study. The first one we are doing is of our site specific targeting program. We are doing this

essentially because this is a program we have which is aimed at employers where there's a high injury rate, but also just because of the nature of it, it can be treated as a randomized clinical trial, something that looks just like a drug trial that's done by say a drug company. We actually use randomization.

When we looked at this, we said well, this is a study that we're doing. Before this, we had never really looked at it as a study.

I want to show you what we are doing. It's very neat. We do a survey every year.

We do a survey, what's called our ODI. This is a little hard to see, at least from here it's hard to see. We send out letters every year to 80,000 employers saying tell us what your injury and illness rate is. We don't get much more information than that on the injury and illness rate. How many injuries, how many hours worked, et cetera.

Of those, we get 48,000 in Federal jurisdiction. We put them all into a computer and we essentially choose a cutoff, the highest 14,000 or so, whatever that is, people with the highest injury. This

is only sent to companies in SIC codes, where there is a very high injury rate to begin with.

Of those 14,000, they get a letter saying you have a high injury rate. We may come inspect you.

We have always known that just getting that letter has an effect because we know that the state consultation projects have an increase in calls right after that letter is received, which is exactly what we want.

We don't want to have to go out there and inspect. We certainly don't want someone to get hurt. We want an employer to see these rates are high, what can I do about it.

Of these 48,000 in the Federal jurisdiction, 34,000 get no letter, but 14,000, which are the highest 14,000, get a letter saying you could be inspected.

What we have always done is we have sort of randomly assigned -- we have essentially randomized that group and we told the area offices start inspecting some of the ones we have randomly chosen but not the ones we haven't chosen. It's a randomized trial, just like a drug.

You are put into three different groups. This is the way it has always worked. There are some that get inspections. There are some that don't get inspections but if we run out of the first group to inspect, we will inspect the second one. There are some that will never get an inspection. That's the way we have done this.

What we are doing is turning that into a clinical trial. In year one -- we are very excited about this -- the control group is a group that is going to get a letter and will get an inspection -- I'm sorry, will not get a letter, will not get an inspection. We will inspect them a year from now.

The first year, there is a whole group that have high injury rates that will get nothing. A second group will get a letter and no inspection but next year, we will inspect them. A third group will get a letter, an inspection this year, and then get inspected next year.

We are going to see from this what the impact is of just getting a letter, of getting a letter and inspection, versus not getting anything.

We will do it not just based on their injury rates, but we will actually be able to go in there and see what's going on as well.

We are very excited about this. We plan to do more studies of this nature. If you have thoughts about how we can do this sort of thing in the building trades in construction, it would be very useful to us.

It is a much harder thing to look at, to figure out. Obviously, jobs change. It's much easier in manufacturing and sort of stationary facilities to do this sort of work.

If we find letters aren't effective, we want to stop doing them, if we think they are a waste to make inspections more effective.

That's where we are, the things I thought most important to mention today. I'm eager to talk about anything on your minds.

CHAIRMAN STAFFORD: Thanks, Dr. Michaels. We appreciate your efforts and your leadership, you and your staff, the staff at DOC, for what you are doing for the construction industry.

I have a list of questions, but maybe we can

start with any of the committee members that have any questions or any follow up for Dr. Michaels.

MS. DAVIS: What's the outcome in that study? Is it the actual injury rate or on the inspection, you're looking at compliance?

DR. MICHAELS: On the injury rate is one, but also for the ones we will visit, for the letter, we will be able to do the inspections at two points. The outcome will be the injury rates.

CHAIRMAN STAFFORD: David, on the I2P standard, it was very interesting about the data you have from the military, that they can make the correlation from a program standard to injury rates. Is that data available?

DR. MICHAELS: Yes. They actually published that data. We can get that to you as well.

CHAIRMAN STAFFORD: It was one of the questions in our work group yesterday, what was the evaluation of California as an example, and can we make that kind of correlation. This would be very useful.

DR. MICHAELS: Actually, John Mendeloff and others at Rand have done a study of the California

injury and illness prevention program experience, which they are finishing now and will publish soon.

I think some of it may be available, which we can also provide to you.

The Department of Defense has actually published -- we took this from a publication, and we can provide that as well.

The other thing is there is some very good data about -- let's leave it at that. It isn't directly applicable to I2P.

CHAIRMAN STAFFORD: I think what we heard yesterday is we're not sure whether John's report in the end will actually talk about injury rates versus citations. It will be very interesting to see what comes out.

DR. MICHAELS: Yes, I'm not sure.

CHAIRMAN STAFFORD: That will be very helpful, and hopefully with the Program Standard Work Group, we can have John come in and present.

One thing that you didn't mention and it has been something we have worked on through this committee for years now is any status or any hopes of whatever is

going to happen with the silica standard and getting out of OMB. Any changes in what's happening?

DR. MICHAELS: There's nothing I can report that's new. It remains over at OMB. It's being considered. We are eager to go through the process and have it issued.

CHAIRMAN STAFFORD: Sounds good. My question on enforcement, which I didn't ask at the time. Is OSHA still involved in construction inspections, the focus for inspections, or is that something that is kind of --

DR. MICHAELS: I'm turning this over to Jim.

MR. MADDUX: Yes, we do still have a focus for inspection policy, and we still do several thousand inspections per year under that policy.

CHAIRMAN STAFFORD: One other question. It's my understanding, and I think there are probably folks in this room that know more about it than I do, with the severe violators' policy. It looks like maybe 50 to 60 percent of the companies on that list are out of the construction industry.

I understand that OSHA is having some problems

going back and finding those contractors and conversely, we have had some discussions around our table and in other settings about the industry, if you're on that list, what do you do, what's the criteria for getting off it.

I don't know because this is going across construction if that's an area this committee should weigh in on or talk about or consider, so I would appreciate your comment on that.

MR. MADDUX: It is certainly an issue we have been taking a look at and trying to develop criteria, both for construction employers and non-construction employers, what the criteria are to get off this severe violators' list.

Really, the question is sort of basic. What does it take for us to feel comfortable that a company has actually kind of made a change in their behavior and implemented programs so that we are not going to see the same problems resurface later.

We have an options paper where we are considering several different options on that.

CHAIRMAN STAFFORD: Thanks, Jim.

On I2P, I want to go back to the program standard quickly, David. One of the committee members asked in the work group meeting yesterday, you know, we understand we are waiting for the SBBEFA process, and we know this is a big priority of yours.

Would this in your view be the number one priority for the Agency?

DR. MICHAELS: There is no question, it is. As everyone knows, the process of even getting to a standard -- getting into the standard setting process is very slow.

It remains our number one priority and I'm committed to working as hard as I can to move it through. Hopefully, we will have some good news soon.

CHAIRMAN STAFFORD: Any other questions from the committee?

(No response.)

CHAIRMAN STAFFORD: Dr. Michaels, again, we greatly appreciate your leadership and for being here today.

DR. MICHAELS: Let me thank you again. This committee is so productive and so useful, and we really

welcome your input and advice. It's been valuable so far and we expect it to continue to be. It's been very helpful.

CHAIRMAN STAFFORD: One last thing, David, and we had a meeting yesterday amongst the work group chairs, with the travel issues and getting releases, it's been kind of problematic for this committee to plan our work groups and move things around with such late notices.

We decided yesterday informally that we would set up a schedule for our meetings, recognizing in the end, those meetings may not come to fruition because of the travel issues.

I just wondered if you thought that was a good approach, and if you could support us so we can plan our meetings out, so we can be more productive in our work groups and as a full ACCSH.

DR. MICHAELS: Yes, I think it would be very productive. Given all the considerations around budget and travel these days, it has become much more difficult to schedule meetings. Of course, we have to justify every meeting very clearly.

There is no question this is a very important group and makes a valuable contribution. That doesn't mean we don't have to go through many steps to justify every meeting.

If we could do as much in advance and have everything planned out and get all our approvals, that combined with a fixed annual budget, which we hope to see soon, but we're working on a continuing resolution, and it's very difficult to do that as well. There are certain rules we have to follow in terms of travel that don't apply if we have a regular budget.

Assuming we have an annual budget soon, if we can plan out the meetings, I think it would be good for everybody.

CHAIRMAN STAFFORD: All right. Thank you very much again, Dr. Michaels. We appreciate you being here.

DR. MICHAELS: Thank you.

(Applause.)

CHAIRMAN STAFFORD: Jim, are you ready to reload?

MR. MADDUX: Yes, unless you're ready for a

break.

CHAIRMAN STAFFORD: I think we can go ahead and finish.

(Mr. Maddux's presentation resumes.)

MR. MADDUX: As you can see, Dr. Michaels is really, really into the research and performance measurement aspects of the Agency. I think it is sort of an unique quality that David brings to the Agency, that at least I've never seen in an assistant secretary in my time here.

It may be a little bit repetitive here. Getting back to our rulemaking's, standards and guidance, we have the hazards communication rule that is at OMB. Electric power generation and transmission, which we have been working on for many years, that I think will go into clearance next year.

The MSD rulemaking is back with the Agency. It has kind of gone back and forth to OMB, and we are still trying to find a path forward for that.

We have a number of construction directives that are under development. Of course, the most important of these is the cranes and derricks

directive. I think we have made some excellent progress on this just in the last month. I'm very hopeful we will get that into our Directorate and regional office review very, very shortly.

Also, thinking about kind of in the initial stages of looking at our trenching directive. We have had some sort of review commission and court decisions where we may need to give some additional advice to our inspectors there.

Highway work zones is sort of an interesting one. Obviously, a very unique sort of job site in terms of the traffic hazards and accessing these sites. There is some additional guidance going out to our field offices, and in particular, how to access these sites safely.

David talked at length about the residential fall protection. I'm not going to repeat what he went through.

We have gone through a tremendous amount of outreach this year and production of guidance products for this issue. It's been one of the biggest initiatives for the Directorate of Construction this

year.

When we first put out the policy about a year ago, some Q&As, a fact sheet. Later on, we came up with a residential fall protection guidance document. That is now available in a Spanish version. It's been reported out this morning.

We also did a PowerPoint presentation. Then we sort of came out with a second version of the same PowerPoint presentation, which is narrated.

You pull it up and it runs just like a video on YouTube or something, so the slides go through and Damon, who is helping with our computer work, has his voice in the background talking to the employer or the worker about what our residential fall protection policy is and the various ways people can comply with it.

Once again, a product that may be helpful for low literacy audiences.

We are working through right now and we are in the final phases of issuing the PowerPoint presentation in a Spanish version. We have plans to also do the narrated PowerPoint.

We have Danessa on our staff and we have a gentleman in the field who is going to come in and help us. We are going to try to do a narrated version of that hopefully in the next couple of months.

We have also published three fact sheets on specific issues. One for tile roofs, roof trusses, and roof repair.

As you have heard a couple of times today, we have the animated construction safety video's, all 12 -- I think there are seven of them that are probably actually applicable to residential fall protection, but those are another tool that helps.

We also have a number of additional products that are in the works. We have three fact sheets that can publish in the next two or three weeks, and we are continuing to produce product here, kind of during the off season for residential construction.

We are trying to keep that effort going so that as residential construction picks up in the Spring, we will have even more products that are available to the public.

We have a lot of other guidance work we are

doing, too. We are continuing to do guidance on cranes and derricks. We have another set of FAQs in addition to the first ones that were issued with the standard that we're working through.

We have published a handful of fact sheets, and we have more on the way. We published a small employer compliance guide, which is a very helpful tool, I think, for people that are doing crane work.

We are working through some letters of interpretation. I think we have issued three letters of interpretation so far on various issues, status of documentation and using cards for signal persons, from unions, the hoist on mast climbers.

We have another nine or ten letters that are in the works. They continue to come in. It's amazing the level of detail it gets to.

We have a letter that came in from some of the crane manufacturers, how do we define the date of manufacture of a crane, for example, sort of these narrow type issues that we are working through.

Some of the other products, I mentioned earlier how we had a little bit of an opportunity last

fiscal year to get some publications actually published in hard copy.

We were able to update our construction industry digest, which is sort of a pocket guide of kind of the most significant construction standards. The nail gun document that David talked about.

Christine will be here later from NIOSH. She may talk about this. One of the things we learned with the nail gun guidance product, probably two lessons, one was kind of how to co-produce documents with NIOSH, which you know, dealing with the bureaucracy of one agency is a challenge, two of them is more than twice that challenge. Tish laughs. I hear the voice of experience there.

I think we learned a lot about how to do that. I think we learned a lot about rolling out products and introducing them to the public.

We had developed a real roll out strategy so that NIOSH was doing certain things and OSHA was doing certain things. I know a lot of people around the table here were helping. It has resulted in a tremendous amount of awareness of this product and of

the hazards with nail guns.

I think people know, 37,000 emergency room visits a year for nail guns. There is a lot of good work that can be done here.

I think we have learned from that roll out probably things we can use in future roll out's and campaigns.

Updated trenching guidance. We put out a new poster, a new fact sheet, and a new quick card on trenching, kind of updating some old products.

We have several more guidance products that are in the works. We are updating our 100 Most Frequently Cited Standards with abatement of the top 25, which has been a popular product for 20 years.

We are also working on updating some of our general fall protection documents. Some of those still have some references, for example, to our old residential fall protection policies, so we'd like to get that all consistent.

David talked a lot about the heat illness campaign, which we felt was a very successful awareness campaign that we ran in the Spring and through the

Summer.

We also this year talked a lot about distracted driving. This has been in the news, again in the last couple of days, this whole issue of should people be using any sort of electronic devices while they are driving.

I think this has gotten a great amount of attention in terms of over the road vehicles, which is a huge plus. It is also an issue in construction vehicles that are off road vehicles.

We had an inspection last Winter in the South. It was a highway construction job. A motor grader operator was finishing up at the end of the day, was driving his grader back to the office area. Unfortunately, there was another worker on foot who was run over.

They had several problems. They didn't have adequate lighting to be working at night. They actually weren't planning on working at night. They just ran over.

As part of the investigation, our inspector took a look at the motor grader operator's cell phone

record. He had 85 text messages and cell phone calls during the shift. Half of them were to his supervisor.

It's sort of anecdotal, it's sort of one situation. People are operating equipment and using their cell phones at the same time, and that is just bound to result in trouble.

We have to continue to raise awareness of this and talk it up and try to convince people that number one, we need company policies on doing this. We need training on this. We need to actually do it in reality. If your supervisor is calling you, that condones the activity.

We are also working on a campaign for 2012 to focus on fall prevention in construction. We are still in sort of the early stages of this.

Christine will be talking a lot about this later on today. We feel this is a good timing. Number one, we have done an awful lot of work in this last year updating a lot of our products for fall protection and coming out with new products. We have a very nice arsenal of sort of outreach products that we have going.

NIOSH is working very hard on doing some of the research that will help us to run a campaign like this, especially on what kind of messages are most effective.

One of the great things about the heat campaign that we ran this year is that California had done a lot of work in this area. They had already developed this water, rest, shade message. They had already tested it with focus groups and other techniques.

We had a very high expectation that it would be effective. Of course, it's a nice straightforward message, water, rest, shade.

What is the right way to message a campaign on preventing falls and what will work with people, what are the right mechanisms for getting it out.

This has been another very, very hopeful joint venture with NIOSH that I think will help improve the quality of this campaign a lot.

I just wanted to finish up with sort of what we consider a success story. We hear about these every once in a while. This one just actually happened last

week in a suburb of Chicago up in Illinois.

One of our inspectors came to a job site. This crew was working on the roof of a church. You can't really see the steeple very well on the right-hand photo, in either photograph, I guess. There is a steeple there.

There were some roofers and there was another worker that had an aerial lift, where he was doing some power washing. They were not using any fall protection.

The CSHO started talking to them immediately. We see this actually far too often. They actually had the fall protection gear in the truck.

Oh, yeah. OSHA is here. They decided they would get their fall protection gear out of the truck and get some anchor points on and decided to wear their fall protection and use it properly.

This worker on the right, shortly after they donned their fall protection, fell, and slid down the roof. The fall protection kicked in just before he reached the edge of the roof and saved him from going off the edge.

You never know what kind of injuries or what kind of problems he might have had as a result. That fall was prevented.

Here on the right, you see that same worker who had stopped, who is walking back up the roof to continue his power washing.

A neat story. We hear these from the field every once in a while, and I thought it would be nice to share that with you.

Thank you very much. I would be happy to take any additional questions.

MS. SHADRICK: I just have a couple of comments. I know we had the work group here on nail guns, and I think it was quite effective. I have received calls from ISANTA, and they are having all their manufacturers have a meeting in January to discuss building safety and equipment. I think it was a good step that we moved on this, so a compliment to the work group that helped move it along.

Secondly, on the fall prevention, I hope you include fall retrieval. We can discuss people tying off and stuff, but what happens if they do fall,

especially on a multi-story building.

There are a lot of devices out there now that I think people are unaware of that can be used to retrieve a person who has fallen.

That is just a recommendation.

MR. MADDUX: There have been a lot of advances in the self rescue equipment.

MS. SHADRICK: I can help give you some information on that.

MR. MADDUX: Great. Thank you.

MR. RYAN: Jim, just one question. I was wondering where the confined space is at right now.

MR. MADDUX: It's actually on my desk. Paul Bolon is here from our Office of Construction Standards. At the end of last week, we did what we call the "folding together process," where we have had the document in different chapters, in pieces and parts, as I call it.

Last week, we actually put together the full document into an entire rulemaking. We are making a front to back pass through that right now with our attorneys and our economists, so we can start getting

that into clearance.

We feel like we have made some really good progress on that in the last few weeks.

CHAIRMAN STAFFORD: Walter?

MR. JONES: Thank you. Walter Jones, employee rep, Laborers.

I think the nail gun is a great document. I want to give an applaud to this committee because I believe that issue was primarily pushed through this committee, through the great work of Matt Gillen. It was put on your radar through this committee.

We didn't go through a standard setting. We chose the guideline. It has proven to be really successful.

It would be great if somehow the committee could get some recognition for the work it has done in development. As I look at the document, it's fantastic, but there is nothing on it about through the advice and counsel of the ACCSH committee, nor on the website or anything, any reference to the fact that it germinated here.

MR. GILLEN: The cover letter from Dr. Howard

and Dr. Michaels mentioned it was from the ACCSH committee.

MR. JONES: Often, we meet and sometimes we don't get any recognition. What are we doing here. It would be great for some of our products, wow, this is actually done through the advice and consent of this committee.

MR. MADDUX: I do think we need to look for some ways to do that. This happens a lot. These standards and guidance products that OSHA comes out with wind up being very collaborative projects, where a lot of people contribute to them. Often times, they don't get the recognition they deserve for the work.

CHAIRMAN STAFFORD: Thanks, Walter. Steve?

MR. HAWKINS: You talked about the confined space standard being in the final stages. What are the remaining hurdles?

MR. MADDUX: The remaining process is that we will do a review of the full document along with our solicitors and our economists. That is actually starting up right now.

We will resolve our differences and then we'll

submit it to Dr. Michaels who will decide whether or not to move forward. If he says yes, it will go to the Department of Labor, where it will be reviewed by other affected agencies within the Department. In this case, probably MSHA is the only one that would probably care about it at all.

It will be reviewed by our Assistant Secretary for Policy, go through a departmental clearance procedure that we have, and then it would go to OMB for review.

MR. HAWKINS: We are still several months away.

MR. MADDUX: Some of those processes, obviously, once it gets outside the Agency, a lot of those processes, we don't control. We do everything we can to shepherd them through those and to provide the supports that we need. We have no real control over the schedule. We are still a ways off.

MR. RYAN: What year was that?

MR. MADDUX: The standard setting process is slow. When you have major standards, it takes a while. This one in particular experienced a difficulty because

it was set aside while we focused on the crane standard.

We were actually very fortunate. We had one person in the Office of Construction Standards and Guidance that continued to work on this while the rest of the office was working on cranes.

He actually made a very large amount of progress that we were able to pick up on when cranes completed and start moving forward again.

If it wasn't for his work, another one of these examples of somebody that is not getting credit for the work they did, if he hadn't done that work while everybody else was working on cranes and just kind of quietly kept at it, we wouldn't be even where we are at.

CHAIRMAN STAFFORD: Tish? Or did you want to follow up on that?

MR. HAWKINS: Jim, I hate to even ask, but do you have a rough idea of the time frame involved to make that completion? Best case/worse case?

MR. MADDUX: I think the best case would probably be somewhere May or June. Worse case, a lot

longer than that. I don't know.

CHAIRMAN STAFFORD: Tish?

MS. DAVIS: Just a few comments from the public health perspective. One is with respect to the nail guns, we work very closely with the vocational education community. Our Department of Education was extremely well received. We have e-mail contact with all the trade teachers. They loved it and the employers they worked with said we want more. I just want to congratulate you on that. I think it was terrific.

With respect to distracted driving, state public health agencies have funding from NHTSA to develop strategic safety plans, highway safety plans in every state.

These bring stakeholders together. We have 40 or 50 stakeholders sitting around the table in Massachusetts developing highway safety plans. There are objectives about distractive driving.

I think it's really important to get occupational objectives into these plans in the various states because it becomes these planning committees,

these stakeholder groups who come and network, it expands beyond the traditional health and safety community.

That's one thing. Another thing we are doing under this highway funding, and we are one of many states developing a database of all ambulance runs on emergency medical management systems, so we now have a database.

For a long time, we have had a long-standing database of all emergency department visits. We are now getting a database of all emergency runs, which I believe, and I'll look into this and get back to you, has a location variable in construction sites as one of the data elements. It's something to explore.

The last thing is just something I call to your attention because I heard it on the radio and I thought it was fascinating, I have no more information than this.

Because the GPS systems are on our phones, there is software where they can actually -- companies can hold your calls if your GPS indicates that you are moving. I don't know if OSHA is aware of that. It was

just fascinating.

MR. MADDUX: I heard some technologies were coming that way, probably especially with some of the developments this week, some of the reports from NTSB and DOT and so forth, we are probably going to see some additional technologies to help manage this electronic communication capability in vehicles.

CHAIRMAN STAFFORD: Jim, your description of Glen Shore's work was very interesting. Is the intent for Glen to go through every trade or specific trades? Is it driven by the data available?

MR. MADDUX: I'd have to ask Glen about that. I think he's actually on his way to the airport right now so he can go spend part of the holiday --

CHAIRMAN STAFFORD: Well, give him a call on his cell phone.

(Laughter.)

MR. MADDUX: I don't know what his intentions are. He's actually been working with Dr. Michaels very closely and helping Dr. Michaels do various bits of research. He was kind enough to pick this one up.

We can certainly work with him and see if

there are some other trades where there is a sufficient amount of data to do some other interesting things like this.

It was very eye opening to me. I think we all know these accidents have tremendous impacts on Workers' Compensation, but actually being able to wrap some numbers around a specific occupation and a specific injury pattern is very, very powerful.

CHAIRMAN STAFFORD: I misunderstood. I thought his work was specific to construction, but it's not.

MR. MADDUX: No. I would be happy to take him from Dr. Michaels for six months, but I don't think I'll have much luck with that.

CHAIRMAN STAFFORD: I appreciate that. Tish?

MS. DAVIS: Just to comment on that because we work with our Workers' Compensation data, but in the states, several of us, Massachusetts and a number of states, are looking at under utilization of Workers' Compensation.

What we are finding is substantial under utilization of Workers' Comp, even for acute traumatic

injuries. We have always known that existed for chronic disease.

Because we can now ask questions in our behavioral risk factor survey in the states, we can start to look at this by industry. We should have some data on that.

The other thing that we are seeing in our community health centers that service low income vulnerable populations, that they are somewhat less likely to use Workers' Compensation than others.

We think there is increased under utilization by the most vulnerable workers. Nothing new but in a sense that we are being able to tell the story and document this.

MR. MADDUX: I think it's very important when we look at data like what Glen put together here that we do understand that because of this under utilization and other problems in the data -- that's why I like to look at the average cost per claim.

When you look at the total cost, you really do have to remember always that it is at least that much. That is what we actually have got a hard handle on, and

we don't know how big the rest of the problem is.

CHAIRMAN STAFFORD: Any other questions?

(No response.)

CHAIRMAN STAFFORD: Mr. Maddux, thank you very much for your report, your work and the work of your staff.

We are a little bit ahead of schedule. We are going to take our break now.

(Brief recess.)

CHAIRMAN STAFFORD: If we could reconvene, please.

MS. SHORTALL: Mr. Chair, at this time, I'd like to enter into the record as Exhibit No. 5, the DOC/OSHA update PowerPoint presented by Jim Maddux, Director of the Directorate of Construction.

As Exhibit No. 6, the PowerPoint presentation by Dr. David Michaels, Assistant Secretary of Labor for Occupational Safety and Health.

(Exhibits No. 5 and 6 were marked for identification.)

CHAIRMAN STAFFORD: Thanks, Ms. Shortall. We

are going to move on with the agenda.

Yesterday at one of our work group meetings on Health and Green, Dean McKenzie did a presentation with a lot of new tunneling projects coming up, the issue of updating the decompression tables.

We are happy to have a presentation from Anita Johnson from the Seattle Tunnel and Rail Team to talk a little bit about this issue, so welcome, Anita. It's yours.

TUNNELING PRESENTATION BY

SEATTLE TUNNEL AND RAIL TEAM, START

MS. JOHNSON: Thank you. Good morning. We are here this morning actually as a group. I have with me Mr. Lee Dutcher and Mr. Steve Stier with Traylor Brothers.

We would like to come together and go over some of the information regarding tunneling that is going on today and some of the tunneling that has gone on in years prior, just kind of start from the beginning.

CHAIRMAN STAFFORD: Anita, I believe I have a few of your hard copies of the presentation.

MS. JOHNSON: Yes, there are ten copies. What we have done is we have put together some information on tunnel projects that are going on currently, a little bit of information about some of the man lock configurations on the TBMs, and then the variances that have been requested previously, so as many as we could come up with are included in this packet.

CHAIRMAN STAFFORD: Okay. I'll pass around a few for the committee to take a look at.

MS. JOHNSON: There is a stack right here. Lee, did you want to say anything as we start off?

MR. DUTCHER: Steve and I are from Traylor. We are one of the tunneling construction companies within the United States.

Through the last few years, we have been working in several states that we have been using EPB machines that we are going to talk a little bit about, now a slurry machine. We have also done a lot of hard rock tunneling.

There has been significant advances. What Traylor is about and what I'm about, I'm a safety professional, obviously, is trying to marry up these

older standards with some of the new medical things that are out there, that are improvements in our decompression for people, and the man locks, and how we are using them.

We have talked about doing this. I think this is an excellent opportunity, and just want to thank the committee for allowing us to come and talk about this part of our business.

Steve is our local safety manager on the Blue Plains Project. I don't know if any of you have heard about it. It's part of the Clean Rivers Project, that there will be ongoing tunneling in the D.C. area for many years with EPB machines and various other possible tunneling machines to create a project here in the D.C. area to help keep the rivers clean and make them better for all the citizens here in the D.C. area.

MS. JOHNSON: We put together some information. We weren't sure how many people have been involved in tunneling projects or had any sort of tunneling information.

It's a very small amount of time to give you a snapshot of what we are wanting to discuss, so we are

hoping that we can convey the message.

We started off with a little bit of history on the standards, where they started, where they are, a little bit about TBMs and the three different types there are.

We have showcased about eight different projects where we have had hyperbaric operations ongoing and had some great success as a result.

We have included some compressed air information, and then our goals moving forward after this project.

Starting off with a little bit of the history, I'm going to turn it over to Lee and have him start this whole process.

MR. DUTCHER: We didn't know when we kind of put this together what types of things were going to be talked about before, so probably in your meetings, you have heard some of this. We won't try to turn it into a big history lesson.

Obviously, the decompression tables and 803A, the appendix for the decompression tables, have really not been changed since the original 1970 Occupational

Safety and Health Act approval, and even though there has been changes in tunneling and changes in the tunneling standards since 1926.800, there haven't been any changes to the decompression tables and some of the compressed air work.

Those things are going to be talked about later. They come up as part of the projects that are ongoing. We're just trying to recognize there is some new medical evidence out there and the tables from the 1970s, there has obviously been a difference of opinion now on how to decompress people for the better safety of the individual worker, because that's who we are trying to provide information for and get better safety for our workers so they don't end up with bad knees 20 years after they are working for Traylor on a tunnel because their decompression cycle wasn't proper or didn't work to the best for their safety.

When tunneling started in the past, and they have been doing tunneling for a long time, I'm sure you have all heard of the Brooklyn Bridge and the caisson work, the problems, getting workers that were dying because of decompression, sickness, stuff like that.

Our tunneling has been going on, caissons have been going on, compressed work for a long time.

The tunnels back in the 1970s were really big tunnels and bulk headings, where you send a whole crew in there to work almost the whole shift as a crew. You brought them out through a big man lock. You had a set up for the entire crew.

That type of tunneling is not where we are currently at. We talk about man locks. We have small man locks, three person teams. We have multiple man locks on the tunnel machine itself, one for two crews, one on either side of the machine.

We have changed the decompression stuff based on the current medicine, and we are trying to make fewer entries than before. We went in. Now, it's more a matter of going out to the base and finding out are there problems with the cutter head, do we need to change cutter heads, do we need to just go with a minimum amount of work.

We are narrowing it down. We are exposing fewer people, but we want to get those people back out in a safer manner.

There is a big difference between the tunneling then and the tunneling now. Everything in our culture, we have changed so many things recently.

You were just talking about IPhones and distractive driving. You all know Apple won't let anybody put that equipment on to set off their IPhone when they are texting. Everybody else will do that, Android and everybody else.

MS. JOHNSON: Where did that come from?

MR. DUTCHER: I just happened to be looking at exactly that, because our company is very concerned about our drivers in the construction business, having that same problem, whether they are crane operators or truck drivers.

MS. JOHNSON: Basically, what we are trying to accomplish is to create some awareness on decompression, hyperbaric operations, discuss tunnel advances, and come up with some innovative solutions of how we can come together as a group and effect some change.

In an effort to formulate a plan, we are going to sit here and try to get as much information from you

guys and figure out how we are going to move forward.

I am going to give the floor to Steve, and he's actually going to go over what we want to show you as TBM types.

MR. STIER: Thank you. The different styles of machines, hard rock, we like to go in there and drill and shoot, although there are hard rock machines that do quite well. It just depends on the psi of the rock versus the style of machine you are using.

Slurry shields, where the machine is actually sending slurry up to the head to melt with the conditions of the soil and then remove the soil and the slurry, and continue to move your machine forward.

EPB, earth pressure balance, where we are in pretty bad conditions for the most part, sandy areas, where we will compress up just the head area, so we have a much easier time of it when we are drilling through that particular type of material.

Here, we will show you the different types of machines available. Here we have a typical Robbins main beam machine for hard rock. The Robbins Company built the machine in 1952. They cut 160 feet in 24

hours in a shale, ten times faster than any other method at that time. Tunneling was off and running then.

Soft ground machines. As infrastructure builds, we're having to go deeper and deeper. What we are trying to do, especially in these urban areas, is the ground areas are softer in these particular areas, we are depending more on our compressed work for that.

As you can see, normal methods of doing this in a soft ground is to maintain the soil around that area.

TBMs with positive face control, such as an EPB or a slurry machine, are used in such instances.

Here is the different types of machines. This is what I was referring to, the earth pressure balance machine. Just to paint a better picture of this, this would be our hyperbaric chamber, and this would actually be the work area for those men that are going out into that pressurized area to do this work.

With the newer machines, these cutters are on drawers that simply pull out and bolting, taking the cutter out, putting a new cutter in and bolting it into

place, so the majority of your work is right here, very safe, very compact area.

It's just perfect for three people as compared to historically, like Mr. Dutcher said, you would bring a whole crew up there back in the day. Much more streamlined and better technology enables us to work better in these conditions.

MS. JOHNSON: Everything behind that man lock, Steve, can you point it out again? There are actually two chambers in that section right there. You have an outer chamber and an inner chamber.

What you can do is you can actually lock in your three folks that are going to do the work. You can close the door. If there is ever an emergency, you actually lock in somebody to that outer chamber, equalized pressure, and they can actually enter that chamber that you have working folks in to take care of them medically.

You have the availability of not only having your crew in there, but your medical staff as well, if there's an emergency.

COMMITTEE MEMBER: In an operation like this,

how big is a typical crew that we're talking about now?

MS. JOHNSON: As far as that would go under pressure?

COMMITTEE MEMBER: Yes.

MS. JOHNSON: You only have about three. You generally have one person doing the work, one person that's the go between, and your third person maintains communications.

It's a very small amount of people considering what happened years ago.

MR. JONES: How big is that chamber?

MS. JOHNSON: Usually, your head room is about six feet.

MR. STIER: Yes.

MS. JOHNSON: It's about six feet. You have enough room to stretch your legs out. As you very well know, when you're decompressing, you want to make sure you can stretch your arms out and your legs out so you're not trapping those bubbles in your joints, so when you're actually back up to atmosphere, you're okay.

MR. STIER: As opposed to our slurry machines,

where the cutter head is moving and the slurry is pressed forward to help in formulating a better ground for us to cut through.

MS. JOHNSON: You can see the machine that's moving right there is actually forcing bentonite through that blue pipe, and it's feeding to the face. It's going to create some sort of a cake formation so that it keeps that soil back and the water back.

When they are in that working chamber, the bentonite is at the outside surface of the cutter head there on the left-hand side, and the air pressure is where those four arrows are in the middle.

You have your bentonite surface there on the left, so it protects you, but you're actually in compressed air.

Does that make sense?

MR. STIER: The point we are trying to make with all this is in our work, especially with this softer ground, compressed air is a valuable tool that enables us to get up and make the necessary repairs or maybe just spot maintenance, to ensure that the machine continues working steadily for good production, and the

men are able to go up into that area and work comfortably and efficiently.

MS. JOHNSON: An average working time for any crew that goes in and does work under pressure is about an hour. You have to remember that depending on your pressure and your working time, it is also going to determine what your decompression time is.

Most generally, on average, the pressure that you're going to go in at is about 3.5 bar, and that's equivalent to just over 50 psi, so that's where that variance request comes in.

Because the technology is coming over from Europe, everything is measured in bar. 3.4/5 bar is equal to 50 psi. You are just barely over that OSHA limit, and that is why they are having to request that variance for that change in pressure.

What I was going to say was the average working time is about an hour, which then gives you an average decompression time of about an hour and a half. Your crew is actually two and a half hours from start to finish. That's compression to decompression.

On either side of that, you have time for your

exam's prior to and your exam's post-intervention. There is actually a series of three exam's that take place just for what's considered one dive or one intervention, to give you a little bit of perspective.

Do you have anything else, Steve?

MR. STIER: No, that's good.

MS. JOHNSON: What we wanted to do is give you a little bit of information on the TBMs themselves, and then we wanted to showcase about eight projects, just to give you an idea of some success that we have had with the variances that have been requested.

The first project that we wanted to go over was the West Side CSO project. That was actually the first time a slurry shield TBM had been used in the United States.

It was ground breaking for not only the State of Oregon but tunneling as a whole.

They did apply for and receive six variances. One, of course, was pressure greater than 50 psi. Another common variance is oxygen decompression, which we will go over later, the benefits to that. The third and more important variance was the request to change

tables.

They actually received a variance to use the French and Canadian oxygen decompression tables. As a result, out of 178 interventions, they only had two reported incidents.

One of them did not require a re-compression, it was ear pain, and the second one was an individual who actually was decompressed just fine, went home and umpired his son's baseball game, so he was crouched down for about three to four hours in the middle of the Summer. As a result, he ended up with decompression issues and had to be re-compressed.

It's really important that these folks go home and adhere to their post-intervention instructions, which is not to fly or go to higher elevations, not to be sitting in hot tubs, working out, things that could create problems for them post-intervention.

When you decide to become a compression worker, it actually encompasses not only your work life but your home life. It is something they really have to commit to.

MR. STIER: Issues that are constantly gone

over in the training and before every intervention, those training issues are brought up.

MS. JOHNSON: They are sent home actually with information. Sometimes, as with anything, I don't think they often think it applies to them. Unfortunately, this worker after this happened was an advocate for post-intervention instructions, and he was probably the poster board for you had better adhere to these, this was not fun.

Any questions on that particular project?

MR. RYAN: The post-intervention, how long does that period last?

MS. JOHNSON: It's usually about three hours. It's a little bit dependent upon your hyperbaric supervisors. In this case, it was Dr. Ken Wohl and Mr. Cordon.

We set a rate of approximately three hours at the job site itself. You would have your exam immediately after you exited the man locks, and then you'd actually go up top to the surface and hang out for three hours, have your last exam, and then you were permitted to leave the site.

You want to make sure to observe these folks for a certain amount of time post-intervention to make sure there are no problems.

MR. RYAN: How long does a crew work typically?

MS. JOHNSON: Steve?

MR. STIER: The time period spent in compressed air is not a full shift by any stretch. You're looking at probably an hour to three hours where they are in there to do their work. Whether the work is finished or not, we will have them come back out. If need be, we will send a fresh crew in to complete the work or continue the work.

MS. JOHNSON: Even though they're not performing an eight hour shift, they are always paid for an eight hour shift. It's just it may vary in time, like Steve said. It could be an hour, two hours, it could be five hours. Nevertheless, it's a full day for them.

After they leave the site, again, they can't do anything strenuous. They have to sort of relax, I guess their excuse to sit on the couch and not have to

get up.

They are paid for a full eight hour shift.

MR. RYAN: Post-work, after they are done work, what's the deal about going home and making sure you don't drink or go into higher elevations? How long is that period of time until your body is cleared up or okay?

MS. JOHNSON: Usually, 24 hours. We don't like to do repeat dives any closer than 24 hours.

MR. RYAN: Thank you.

MS. JOHNSON: No problem. Any other questions?

MS. SHADRICK: Have you had any incidents or what kind of incidents have you had?

MS. JOHNSON: Just the two, just those two incidents, that's it, out of 178 interventions. One was ear pain, didn't require re-compression, and then the individual that umpired his son's game.

This was a great project for oxygen decompression and the benefits it had to the workers as a result.

The next project I'm going to have Lee and

Steve speak about is their NEIS project that was an EPB machine in Los Angeles.

MR. DUTCHER: This is pictures of the machine. They did just a handful of interventions. In reality, 200 doesn't sound like a lot, but that is 200 individual people out there. It's not individual time. There are 200 people that went under pressure, came back.

Because of the short working time frame, that cutter head out in front moving several cutter head pieces back. Like Steve says, they're on a tray, and two guys can go out with their supervisor and pull that back, change the cutter head, and get out within a reasonable amount of time, and then we set it up so two crews can alternate and get in there.

When they're going to do an intervention with several people going up, it is planned out. We were talking about IPPs and stuff earlier. We plan everything out in detail so that everybody gets all the instruction, they get the medical benefit. We have the medical officers available.

We had one guy come back that ended up with a

decompression injury. It wasn't a significant injury. He was treated, re-compressed, and home the next day after the compression. It wasn't a long term issue.

This project wasn't so much oxygen decompression. It used Navy Revision 6 decompression tables, which are also based on a lot of the newer medical technology, and they used the doctor down there in Los Angeles.

There are people on the West Coast and East Coast that have a lot of hyperbaric work out there, and because of diving, commercial diving along the Gulf Coast where those tunnels in those areas get really good medical care from their medical personnel on their hyperbaric stuff.

This is a great project. "NEIS" stands for Northeast Interceptor Sewer." It's a sewer project for the City of Los Angeles to improve their long term requirements for the EPA.

MS. JOHNSON: Steve?

MR. STIER: Like the CSO tunnel and this tunnel, obviously, there are two different companies. Both companies, I know, put a lot of emphasis on the

training and raising the awareness of the individual workers who are going in and working in the hyperbaric conditions.

You think about people gravitating towards tunneling. It's not a glamorous sort of construction job at all. We get more of your macho type people, tough people that come out and work.

To raise their awareness, to make them feel like hey, believe it or not, compressed air can hurt you, it's quite a tough task.

Day in and day out, before, during and after our interventions, we are continuing to raise the awareness to the employees, continuing the training, and making sure these folks are working as safely as possible in these conditions.

We have dedicated as a company, Traylor, to ensuring the safety of our people, and through this training and awareness, we're doing quite a good job these days.

MS. JOHNSON: Tunneling in compressed air is a huge topic. We could spend all day talking about the different aspects of it and the details.

We tried to focus on the compressed air piece by itself. We tried to focus on specific projects that have used hyperbaric operations successfully. We tried to give you guys a background.

As Steve was saying, there's a huge component to this that we haven't even touched on, which is the pre-planning process for just putting the whole system together, from your hyperbaric supervisors to your medical staff, and that whole piece of it.

There is so much than just the intervention itself. Before anybody even goes in to perform work under compressed air, you have a pre-intervention meeting. Who is in charge, who is making the decisions, what kind of pressures you're working at, how long you will be working, who you will be working with. You go through your medical evaluation.

You have everything lined out in very specific detail as to how this whole thing is going to go.

There is a whole piece of it that we haven't covered that you probably should be aware of.

The next three projects that we wanted to go over would be the Brightwater projects. There are

three of them. I'm sure everybody is fully aware of all three of these.

Brightwater East did request and receive four variances. Again, for the over 50 psi, oxygen decompression and change in the tables.

The fourth one is often automatic controls. What happens is these machines are manufactured and the controls that are put in them are automatic. As you very well know, things change when you're working. You can end up working an extra five minutes on a particular dive or particular intervention, which you would want to put somebody into the next table to ensure they had safety compression.

If you have automatic controls, they don't allow for any sort of change, any sort of differences.

One of the requests that we put in for a variance always is to take away that automatic control nature. Everything is done manually outside of the chamber.

Brightwater West, they had three variances, but they actually didn't go in and do any intervention. They had to request all these variances and they set up

the whole program, but they never actually had to go in under compressed air. I believe they went under free air, but they never had to go in under compressed air.

On Brightwater Central, they requested and received seven variances. They had over 200 interventions. As a result of those 200 interventions, actually we had a phone call yesterday, and they only had three incidences of DCI. 200 interventions, only three guys that they had any issue with.

The median working pressure was about 3.5 to 4 bar. They were set up for a maximum of six bar. At that point, they would have had divers come in and perform the work under mixed cat. Yes?

MR. STRIBLING: On Brightwater West, you mentioned they never went in under pressure. How common is that when you have a choice?

MS. JOHNSON: Sometime when you have an EPB machine -- we forgot to go over this -- what happens with EPB is if you're in good soil, if you're in clay or soil that holds itself back, you can actually open the face of that machine without pressurizing it. It has two modes it can run in, closed mode and open mode.

The most optimal of scenario's is to go in under regular atmospheric air. However, if you have sand, water, silt, that sort of thing, you obviously have a pressure at the face, close it off, and send people in under those pressurized environments.

However, we don't want to really have to do that. We really want to go in under free air.

MR. DUTCHER: Just in the last few years -- we showed the one LA project for NEIS. We also did the Gold Line down there as part of another joint venture project. They had to go through all the same things, get all the CAL OSHA variances. All of their work on the cutter head was in free air.

Because there was the potential in some areas -- tunneling, because it's underground, you can only inspect in a few spots where you bore along the line to tell what kind of soil, you are never 100 percent sure when you start that machine what you're going to hit.

The potential is out there based on the geology for this amount of pressure, so you have this type of machine. You go out there, maybe you don't end

up there. You don't have to stop there because of the maintenance schedule and things like that, and you can do it in free air. We'd much rather do it in free air because certainly if we don't have to compress someone, we don't have to decompress them.

MS. JOHNSON: That's right.

MR. DUTCHER: Certainly, there is less potential for nitrogen entrapment in the body tissue. If we don't have to do it, we are happy about that.

Two projects operated actually out of the same office in Los Angeles. One had to do compressions. I sat with that with the whole crew going through it a couple of times. It's just an amazing process.

We may ask you at the end to see what we can do, what help you can give the contractors out here so we don't have to continue spending man hours like Steve and his group are going to be going through here in D.C. to get the same variances that have now been requested dozens of times across this country.

MS. JOHNSON: Steve?

MR. STIER: Just quickly, free air versus compressed air, it's not really a guessing game. We're

not taking any chances. We know what we're getting into through our geologists and our competent people.

We know full well when we can go into free air. Like I said, I don't want anybody sitting here to think it's a guessing game. We're fully aware through our geology and our competent people what kind of conditions are out ahead of us.

MS. JOHNSON: The only time it would be unexpected is if there was a breakdown in an area that we didn't think we were going to have to stop in. It's not that it's a guessing game, it's just you do have your geological profile and you have areas where you know you can run in open and where you would need to run in closed.

If you happen to have a problem in an area you weren't expecting to, then you may have to pressurize and go in and fix that problem.

The only machine that has that option is EPB. Slurry does not have that same option. You always are going to have to go in under pressure.

The current projects that Lee and I are involved in now are the University linked projects out

of Seattle. Currently, the University of Washington project itself has requested and received six variances. Again, the same ones, automatic controls, oxygen decompression, those same things.

They are expecting 34 stops. That means there are 34 locations along the alignment that they are requested to stop to either make inspections or perform maintenance. That could mean one day could consist of three to six interventions.

When I see 34 stops, that number could be 340 interventions. We have no idea. We could stop, not have a problem, keep going on. We could stop and say oh, my goodness, we have to replace buckets and cutters and all these things, and have to go in under several teams to perform that work.

Thirty-four stops again could mean lots of interventions. At this point, again, it's an EPB machine, we can perform it under free air, and that's what we would like to do. However, we are set up to perform under compressed air if the need arises.

On the Capitol Hill tunnel, they are in the process of requesting probably five plus variances.

That one hasn't been decided yet. We don't have as much information on the Capitol Hill tunnel itself.

Question?

MS. SHADRICK: Hi. Laurie Shadrick. I'm just curious, how many miles is this, if you have 34 stops?

MS. JOHNSON: There is actually two tunnels. The University of Washington tunnel is actually two twin tunnels. They are 22 feet in diameter and they are each going 2.15 miles.

The South bound tunnel has gone just over a mile at this point. The Capitol Hill station is actually running one TBM at a time, and it's only going a mile. They are going to run a mile, pull through at the station, pull their machine out, and run that second mile.

They have actually completed one run already.

You can in a sense request all these variances and never do an intervention, or you could encounter bad ground and have breakdown's or require maintenance.

An intervention is any time you have to go into the face of the machine, that could be pressurized or at atmospheric air.

Steve?

MR. STIER: Just to clarify, in a mile, we talked about stops earlier, that has to do with the contractual obligations of the job, too.

MS. JOHNSON: Yes, the owner.

MR. STIER: In this case, the owner is asking us to make this many stops. In a mile, you could have three stops or you could have 34 stops.

MS. JOHNSON: You could have a stop every 1,000 feet. It really just depends on what the project specs call for, what happens with the machine along the way. There could be a breakdown.

With the slurry machine, you never see it in the tunnel. It's all piped out. It comes out to the surface and then gets dumped onto a conveyor and gets trucked away.

With an EPB machine, you actually have a continuous conveyor along the length of the tunnel and it actually goes out of the tunnel and into the muck bin.

Sometimes -- I know with the slurry machine, they have people monitoring the muck bin because if you

see metal pieces coming out in the muck bin, you obviously know you have a problem. They would stop things at that point.

Sometimes they can send a camera in to kind of take a look at the condition of the cutter head and sometimes you can't.

At that point, you would stop your machine, you would plan an intervention, which means you would pull your team together, you would have your meetings, you would check on your pressures, you would find out how many teams you think you are going to need to go in, and you set the ball in motion to have everything taken care of, to be able to go in and perform work on that particular machine.

MR. STRIBLING: What you said about the interventions and planned and unplanned, et cetera, going back one slide, I just have to ask, how come the one job, same company, has 200 plus interventions and the other one has none? Were they planned or unplanned?

MS. JOHNSON: There were two machines. On the three Brightwater projects, the East and West only had

one machine, one tunnel. Central actually had two machines, two tunnels.

Sometimes when you have two machines, you obviously have more instances for issues, but they had some different ground problems. Because of their ground conditions, their machine had some issues cutting through that ground.

MR. STRIBLING: They were unplanned?

MS. JOHNSON: A lot of them were unplanned as a result of needing to make some repairs; yes.

MR. HAWKINS: I don't understand why we have six variances. Why wouldn't you just have a single variance, application?

MS. JOHNSON: Remember, this is the State of Washington, too. With the State of Washington, each WAC code requires its own variance.

Instead of just taking one over the whole code, they have to request one for oxygen --

MR. HAWKINS: For each standard?

MS. JOHNSON: That's right.

MR. DUTCHER: We're believing that we have potentially a safer way to do it than what's written

currently.

MR. HAWKINS: I understand.

MS. JOHNSON: Their standards are 1964, I think, the last time theirs were looked at, and one particular standard actually says that you're not allowed to compress women -- that is one of the ones they have to request each and every time. As we all know, there are women in the workforce.

MR. HAWKINS: Have you ever been compressed?

MS. JOHNSON: I have. Actually, in the State of Oregon and in Washington both.

MR. HAWKINS: Because you obtained a variance?

MS. JOHNSON: That's right. The last project that we wanted to bring to your attention was the Lake Mead Intake No. 3 Project.

They are actually requesting three variances. They haven't received them quite yet. They are still working through that process. Again, it's exceeding 50 psi, the tables, and the automatic controls.

They aren't expecting to pressurize people beyond 4.5 bar, so we are clear. I know they have higher pressures for other methods, doing work there,

but people themselves will only be expected to go to 4.5.

Any questions?

MR. STRIBLING: What is the highest that you are aware of people being pressurized, not these jobs, but other jobs?

MS. JOHNSON: I'll let Steve answer this one.

MR. STIER: I can't speak for Europe necessarily, but with variances, I've seen them go just over 50 psi. Again, that is with a variance.

MS. JOHNSON: Like I said, the Brightwater Project, Central, I think they were actually given a variance up to six bar. What happens is you can only use compressed air workers for the lower pressure work because when you go into a higher pressure, you're then introducing Trimix and some of the other gases that a compressed air worker isn't necessarily trained to perform work under.

What they will do is they will often times bring in a dive company and they will have professional commercial divers come in and actually have them train with the compressed air workers.

You have two groups of people. You have the compressed air workers who are familiar with the machine and with the work that needs to be performed, but then you have the commercial divers that are trained to do work under that mixed gas. They actually cross train each other.

At a lower pressure, they will bring one diver in for two compressed air workers and do some cross training so that in the event the machine actually has to be pressurized up to that six bar pressure, they have commercial divers that can do the work.

That's often times how things happen. When you set up a plan, you'll have a threshold and you will say okay, well, I'm only going to allow compressed air workers to go up to four bar. At that point, it turns over to a commercial diver operation.

MR. DUTCHER: They're used to it. They set up and train for what they call "saturation dives," where the compressed air workers, we're not going to expose them to the longer term, the higher pressures.

There is a slide, I think, that talks about the difference in the training between the two groups.

MR. MARRERO: Tom Marrero, Zenith Systems. When they have SCBAs --

MS. JOHNSON: When they're decompressing.

MR. MARRERO: Are there any instances where they have to have SCBAs down there?

MS. JOHNSON: Not when you're working. Just when you're decompressing.

MR. MARRERO: With the different gases, do the tables vary?

MS. JOHNSON: Yes, you have different tables when you're working on the Trimix decompression.

I wanted to give you a little bit of information on compressed air, just a tidbit, just to give you an idea.

As a result of these projects, this is sort of where you come up with this information for the variances.

We talk about this oxygen decompression. The reason why we are requesting it and the reason why it's used is because if you can envision the body and the bubbles that can accumulate in the joints as you're pushing oxygen through the body, it is pushing those

bubbles through as well.

It's alleviating that build up in your elbows and your knees or your shoulders, and you're actually able to circulate things through better, and then when you're actually brought back up to atmosphere, you have that all worked through, and there is less cases of DCI.

That's the reason why they are pushing for and receiving variances for the use of oxygen decompression.

MR. DUTCHER: Certainly for those that are really into Boyle's laws and the Charles laws for gases and stuff, if you change the partial pressure, the pressure outside the body versus the pressure inside the body, more nitrogen can be absorbed into the tissues when you have the higher pressures, and we have to get that nitrogen back out of the tissues, so the decompression tables that into effect and the oxygen helps release that, because it changes those partial pressures of oxygen in the body.

It's a very technical thing, but that's where all the new medical information is coming from, how to

use those decompression tables.

MS. JOHNSON: You have to remember, too, when you're in water and you're actually diving, the only way you have to go is up. You're going to go up at a slow rate and you're going to decompress yourself on your way up to the surface.

When you're in a lock, it's different. You're not in water, you're in air. It's similar yet different.

With the different oxygen decompression tables that I've seen used, it's more of a stair set process. You're at depth, you go up, you stop. You're going to stabilize for a little bit of time, and you're going to go up again, and you're going to stabilize, and you're going to go on oxygen for a few minutes at a time at each one of those stops, until you get all the way to the top and you are back in atmosphere.

The Navy dive tables or some of the other tables are really just a straight line, straight up to the surface.

Compressed air work is slightly different in that you do need to have those stops and you do need to

more stair step it to get to where you want to be.

CHAIRMAN STAFFORD: On the question of variances, it is interesting to me. This is just a process that you have to go through in order to do the work.

Are there ever situations where variances are denied?

MS. JOHNSON: No. None of the projects I've worked on, so I guess I can't speak for other projects.

MR. STRIBLING: That leads me to a question because a lot of those variances were in jurisdictions that had state plans.

MS. JOHNSON: That's right.

MR. STRIBLING: Has there been any talk or work with those states to have a rule that addresses your industry for what you're doing?

MS. JOHNSON: The State of Washington has started an informal stakeholders group. As we know, the State of Washington is in a moratorium, so they can't make any rule changes.

We did speak with Silverstein and his group and said hey, can we at least start the process and sit

down as a group and discuss what we think we need to make changes of.

I believe there was a room of probably 50 people that got together, both industry, the state, doctors, to try to get this ball rolling.

MR. GILLEN: Does tunneling have like a professional trade association and does the trade association have like a Code of Practice or something, good practices?

MS. JOHNSON: I don't know which one of you wants to speak on that. There are several trade associations. The majority of them have moved forward or tried to move forward with making some changes. I'm just not sure where it's gone or what the availability of those changes are.

You're making a face.

MR. STIER: I'm trying to go back and recall some of the different areas in which the tunnel laborers are organized. I know we have all heard of the Sand Hogs. They are really proud of their work and their safety. They are organized in that way and we present our issues to them before we would go in and

look at the variances.

That is just one in particular that's coming to mind.

MR. GILLEN: That's not what I meant. I think what I meant was really more like the contractors, the specialty contractors that do the work.

If there's a Code of Good Practice for doing it for safety and health, something like that that is going to have some recognition that other safety and health professionals have looked at.

I've never done a variance. Something like that might make it -- provide some sort of objective basis that would make it easier to do variances.

MS. JOHNSON: I don't know if that would change the process a whole lot. You still have to go through the whole variance process as a whole with each state.

MR. GILLEN: I guess I'm just wondering, the OSHA table only goes up to 50 and if you have to go beyond 50, somebody has to find a table out there for some guidance. It's those kinds of questions I was thinking about.

MS. JOHNSON: Each contractor hires and teams up with a hyperbaric expert, so to speak. Those are the folks that sit down and look at the project pressures and determine what tables would be best suited based on the situation.

I don't know that something like that would work necessarily. You are still going to have to request it.

MR. STRIBLING: You're saying it's job specific?

MS. JOHNSON: It is job specific.

MR. HAWKINS: That defies the whole thought of a standard. You can't come forward and say each one is job specific and then be talking to OSHA about you need to update your standard.

MS. JOHNSON: What needs to happen -- I guess what I'm trying to say is each job knows they are going to have to go over 3.4/5, which is that 50 psi. That's where the ceiling is right now. We already know we're going to be beyond that.

In that sense, it's not job specific, based on pressure, but at this point, because there is no

standard beyond that, it's job specific because they're going out and hiring hyperbaric people to come in and --

MR. HAWKINS: The decompression, you would think there would be a standard decompression table that is safe for a human being to go from four bars back to one atmosphere.

MS. JOHNSON: There are several.

MR. HAWKINS: You would be thinking that your industry would get together and say okay, we need to try to standardize this, get our experts together and say what is the standard step down that we're going to use or step up, whichever way you think about it, to get a person back to one atmosphere so they are okay. You wouldn't think that would be job specific. If it is, how are we ever going to have a standard?

MS. JOHNSON: Maybe after we're able to sit down after this meeting, maybe that's one of the next steps we can go towards, getting a group of contractors together and looking at standards and making a good practice rule or putting together some new information.

MR. DUTCHER: Of course, the reality for earth

pressure/slurry machines and stuff like that is while it's not brand new technology, it's fairly new technology.

As an organization, Traylor, we're looking at improving our processes, as I assume are our other brethren in the tunneling business looking to improve their processes.

What the decompression tables are based on was medical information that's in Appendix A from 40 years ago. There are a handful of things, the newer version six for the Navy dive tables. They do talk about oxygen decompression. It's a 900 page document. They have a lot of good stuff in there.

There are also European tunneling contractors that have utilized some of the European standards. We are really trying to bring a lot of things together. It is a fairly new field, even though not brand new to the world.

We have projects that are closer to the surface now, some that are deeper, so you get deep pressures in hydraulic areas where there's a lot of water pressure, and you get these tunnels that are 40

and 50 feet below the surface where you have a subsidence, maybe you cave in the middle of a major highway down into the tunnel.

We just can't do that. We have to continue to improve all of our stuff. We're just here kind of looking at a very specific thing, you know, the tables themselves, how can we look at getting newer tables instituted, if not a rule change, some kind of get everybody together and come up with these are the tables we would like to use to provide directly to OSHA.

I was just asked just a few weeks ago to even come and talk to your organization, which is such a great benefit to all the safety professionals getting new information into OSHA through this committee.

It's such a moving target. You're right. We have to get some things finalized in detail. There are newer tables with a significant amount of medical technology that ought to be considered.

Maybe there is some confusion. We, I don't think, came in believing we had to have a rule today or something like that. We just want to provide the

information.

(Laughter.)

MR. DUTCHER: We want you to provide the information.

(Laughter.)

MS. DAVIS: This is all new information for me. How controversial are the updated tables? Is there a great deal of controversy in the scientific field about what ought to be in these updated tables? Is there a general consensus?

MR. STIER: The fact that with every compressed air job, we're asking for no less than three variances, you know, they go up to maybe seven variances. I guess it is controversial in that we're continuing to go to OSHA to go past their standard.

MS. JOHNSON: The tables themselves are not controversial.

MR. HAWKINS: Are they similar from job to job?

MS. JOHNSON: Yes, they are all oxygen decompression tables.

MR. HAWKINS: They don't vary much from job to

job? Sometimes are they almost identical?

MS. JOHNSON: They're very, very similar. You have Canadian tables. You have French tables. There are several different versions of tables. They are all oxygen decompression tables is what it comes down to.

MR. DUTCHER: Length and time and pressures --

MS. JOHNSON: Are all relative.

MR. DUTCHER: All those gas laws are in the new medical reviews. Those partial pressures that allow X amount of nitrogen, that doesn't change. There are these oxygen tables. We have to bring in divers, saturation type divers that can go in. Those tables are specific to saturation dives.

MS. JOHNSON: They are all very similar.

MR. DUTCHER: The compressed air workers, their tables are specific to their amount of time, material that can get into their bloodstream, into their muscles, into their ligaments, and are figured out pretty well.

Everybody individually has some minute differences, but the steps are all well figured out. If you change five minutes or ten minutes, you go into

a new step in the table. They are very conservative.

MR. HAWKINS: There is consensus among the tables.

MS. JOHNSON: Yes, that's correct.

CHAIRMAN STAFFORD: Liz, did you have a question?

MS. ARIOTO: We had an elevator and it was completely different from the elevators that are used, like 20 or 30 years ago. It was smaller. They asked for a variance. We were doing 30 variances a week on these elevators.

They had to make rulemaking on this because it was a common and every day thing now using this type of elevator.

I really recommend that you actually put together a plan and working with the tunneling division, maybe start with one state plan even.

MS. JOHNSON: Yes, that's what we are working on.

MS. ARIOTO: I really recommend it. They will make a rulemaking on this. They will work on it because that's what people are using nowadays. It may

take you longer in certain states more than others, but I highly recommend that you put your package together and work very closely with the unit. It makes it easier for both parties.

MS. JOHNSON: Right.

MR. GILLEN: I have a couple of questions. One was can you give us a sense of how much lead time before the job it takes for the variance and the amount of time spent by both companies and the states involved?

Is this a relatively one month thing or is it more like a year thing?

MS. JOHNSON: It's about a year, year and a half, prior to any tunneling going on that you sit down with the state or with OSHA and you give them your copy of your hyperbaric plan. You talk about pressure. You talk about the whole system.

It's several meetings, several letters, several conversations later before the variances are even written and received.

MR. GILLEN: My second question was related to oxygen. You referred to in the past there was a fire.

There are industry-wide procedures. Have there been fire related incidents where oxygen has been used?

MR. DUTCHER: The TBMs and the man locks are made with fire compression units based on water to suppress a fire and not kill everybody that's inside.

MS. JOHNSON: There hasn't been any.

MR. DUTCHER: All the equipment, the breathing equipment, is always checked and re-checked before it's ever used.

MS. JOHNSON: There are oxygen monitors. There is a whole system. You could spend a whole day talking about compressed air and the different aspects of it. There are systems in place and checks and double checks and personnel and procedures to protect the workers that are in there under compressed air.

I guess what we're trying to say is we have an industry that's primarily using soft ground tunneling, and as a result, are going to be putting people under compressed air hundreds of times.

We as an industry are requesting variances to work if the pressure is needed and we have the systems set in place.

We were hoping we could work together to come up with a plan on how to meet current technology with the current standard, how we can make this work for the folks that are going to be in there working under pressure.

CHAIRMAN STAFFORD: I am going to follow up on Steve's question. This seems like such a specialized area. How many contractors or companies are there in the United States that do this kind of work?

MR. STIER: You have seen most of the major ones mentioned in this work, Traylor, Kenny/Shea, Obayashi has been a team player. Half a dozen of the major players.

I want to draw attention to the folks that aren't major players that depend on these variances also to get their work done. There could be another 20 of the small contractors that are doing much smaller work that may not have the benefit that our larger companies have.

What we are doing is we are hoping to get it out for even the small mom and pop outfits out there.

MS. JOHNSON: Just to sort of wrap up, like I

said, when you have a compressor worker, you want to make sure you're looking at not just their physical profile, you want to look at your exposure time, which is pressure and time.

You want to look at their training and certifications and make sure you have covered everything before you put anybody under pressure. Last but not least is the injury rate.

The Undersea and Hyperbaric Medical Society goes in and they do assessments every year, every other year. What they have come up with is two incidents for every 1,000 dives in compressed air work, and one incident for every 1,000 to 2,000 dives with commercial divers.

The reason we are thinking for that is the level of training. We talked about this a little earlier in the presentation.

Commercial divers are required to go through a minimum of 18 weeks of training. For compressed air workers, I think the Code requires a day of class, an eight hour day of class.

They are given more training by the contractor

than that, but that's really all the Code requires them to do. They are going above and beyond because they want to make sure that compressed air worker is going into that environment very well educated. However, it's not required.

The second piece is the level of medical support.

Sometimes you have these projects such as Lake Meade where it's out in the middle of nowhere. Your medical support is not readily available in such that they actually have to have it actually located there on-site.

They have the heli-pad right there next to their shaft. They have EMTs located on-site. They have a whole medical staff that actually has to be a part of their crew because the medical support is not as available because of their location.

Any questions?

MR. JONES: Walter Jones. A couple of questions. The first one is it's not clear what your ask is. It does seem to me there are a large number of workers being exposed, that's the reason there's not a

great push for this.

Have you guys looked at getting together with labor and other groups to develop a consensus standard similar to what Steve was talking about and then just using that all the time, and then asking OSHA to give a blanket variance --

MS. JOHNSON: That's exactly what we're asking for, what you just said, a blanket variance. Yes. That is what we were going to talk about on this last slide.

We're not asking to obviously go into a rulemaking phase or let's get this going. What we're asking for is something like you just mentioned, a blanket variance that says hey, we realize these three or four specific issues are being requested, so can we work together to put a blanket over those specific items so that our contractors are able to perform the work without having to go through that year and a half process of requesting and receiving variances.

That's exactly what we are asking for.

MR. STIER: I don't know that we have ever gone into a variance situation where we're presenting

our side that we have not had at least the laborers and the operators in there with us.

MS. JOHNSON: Absolutely, each and every time.

CHAIRMAN STAFFORD: They have been with you on these variances?

MR. STIER: Yes, sir.

MS. JOHNSON: Absolutely; yes.

It's definitely a consensus. It's a group effort by contractors, by owners, by construction management teams, by labor; yes.

MR. JONES: One more question. I don't know if you're familiar with CSIP, Construction Standard to Improvement Project, and have you talked with OSHA about an opportunity to maybe develop a consensus standard. That is a way of improving the standards that doesn't have the time lag. That may be another option as well.

MS. JOHNSON: Again, that's something that we -- most of the variances in the past have been requested of state programs. This is the first time, I believe, that Federal OSHA, has been requested to approve a variance for the Blue Plains Project.

Again, there are four more projects after this that are probably going to have to go through that same process.

It's been handled at a state level up to this point. At this point, we're trying to bring it to the Federal level and say okay, what's our next step, what can we do, how can we change this, or what kind of consensus can we come to, is there a blanket variance we can apply for or OSHA can give. What can we do, help us.

CHAIRMAN STAFFORD: First, Anita, Lee and Steve, I want to thank you very much. I'm struggling to follow up on Walter's question on what the action is. You know, this committee makes recommendations to OSHA on regulations or matters of policy.

I think the idea or suggestion that Walter had about getting together with the industry and coming up with a consensus standard is something to consider. That's not really something that we can officially recommend.

I guess the question comes back to the folks at OSHA in terms of what action you would like this

committee to take to support your work in this area, to work with this group.

I don't know, Ben, if you can answer that. I'm sorry, go ahead Dan.

MR. ZARLETTI: That's okay. The fact that you're going to be working in the D.C. area for a number of years to come with these five other tunnels, I think this is going to approach itself on its own pretty quickly.

MR. STIER: Yes, sir.

MR. ZARLETTI: I don't think you are going to have any problem working with the Federal agency because you are going to be approaching them to get this work finished.

MR. DUTCHER: To be honest, the variance for Blue Plains, Traylor has already had initial meetings with the Federal OSHA offices right here.

This was an opportunity that was offered, and Traylor as an organization appreciated the opportunity to at least come and talk and put this out in front of this esteemed organization.

We are going to continue to work with the

laborers, the operating engineers and such because this is one of our livelihoods. This is one of the two major functions of our contract work.

CHAIRMAN STAFFORD: First, I think, at least for me this is more of an emerging issue kind of thing. I appreciate being aware of it.

Maybe we will rely on OSHA after this meeting to talk to them in terms of what kind of action in the future they would like for this committee to take in terms of recommending how we proceed.

MS. JOHNSON: Absolutely, we would love that; exactly.

CHAIRMAN STAFFORD: Will you stay for a while?

MS. JOHNSON: Absolutely.

MR. GILLEN: One suggestion, I think, is since Federal OSHA doesn't have the experience doing this, they are probably going to call their state colleagues. Maybe it's an opportunity to put together this variance and do the process such that a blanket variance is created as part of that process, since they have to do it anyway for the Blue Plains Project.

Maybe bring some people together, have a few

meetings. Use that to create something that can be used in the future, not just for this one project.

MS. JOHNSON: The State of Washington is going to have to go through this whole process again, so that hasn't even started.

They have had five in the past few years and they are going to have to encounter it again coming up in the next few months if they haven't already started meetings now.

MR. BARE: Just to follow up a little bit, our purpose today was to allow those folks to point to the committee an emerging issue, let you know the facts, and get some information about this.

At this point in time, we are not expecting a particular recommendation from ACCSH unless something comes forward.

As we get further into this, as OSHA gets further into this and we may consider this for rulemaking or some other activity, then we would specifically call on the committee, I think, to make recommendations around a certain aspect of this issue.

That's kind of how I see it.

CHAIRMAN STAFFORD: Thanks, Ben.

MR. DUTCHER: I honestly think that's what we really anticipated at this particular meeting. We appreciate this opportunity to make a case for consideration.

MS. JOHNSON: Yes, thank you.

CHAIRMAN STAFFORD: Thank you, Anita, Lee and Steve. Thank you very much for your time.

Ms. Shortall?

MS. SHORTALL: I'd like to enter into the record as Exhibit No. 7, Tunnel Advances, PowerPoint, presented by Anita Johnson, Seattle Tunnel and Rail Team, START.

As Exhibit 8, Tunnel Advances, hard copy handout's from START.

(Exhibits No. 7 and 8
were marked for
identification.)

CHAIRMAN STAFFORD: Thank you. Before we proceed with the NIOSH presentation, Matt, did you have a few words you wanted to say about the follow up on the nail gun document discussion?

MR. GILLEN: Sure. I did bring copies for everybody because it's the first ACCSH meeting since this came out. I wanted to make sure everybody got a copy.

I do think it's a good opportunity to look back. This nail gun document did come out of ACCSH. It came out of the work group. ACCSH formed a work group chaired by Liz Arioto and Tom Kavicky of the Carpenters. I think it's an example of ACCSH really working pretty well.

That work group held different meetings and those meetings allowed ACCSH to hear from Dr. Hester Lipscomb, one of the researchers who has done a lot of work in this area over ten years. Allowed them to hear from contractors, from ISANTA, the International Staple and Nail Tools Association, who was able to present their views on these issues.

There was a motion of ACCSH that led to the request to develop the guidance and other actions.

After that, NIOSH and OSHA worked together on the publication. If you remember, a draft was brought back to ACCSH and we used one of the work group

meetings to get individual ACCSH member feedback on what the draft looked like.

A lot of people were involved working on this to sort of come up with the publication. NIOSH and OSHA again worked on it to sort of push it out, to get it out to key contacts and make it more likely to get it into the hands of contractors.

I think it is a good story of what ACCSH can do, what ACCSH actions can lead to.

There are a lot of folks who have been involved with this, from CPWR, supporting the research from Dr. Lipscomb and other folks. Tom Trager and Winchester Homes allowing us to take photo's, for example.

It's a good example of the things we can do and the role of ACCSH. I just wanted to make sure everybody thought about that, and it gives us some ideas for future things we might do in the committee.

CHAIRMAN STAFFORD: Yes, I appreciate that. As Jim said this morning, those of us that are involved in research and the push to move research to practice, seeing these kind of co-branding materials jointly from

NIOSH and OSHA, although Jim mentioned this morning there were some growing pains that went through that process of co-branding with the two Federal agencies, we certainly hope we can continue to do those types of activities.

With that said, we have our friend and colleague, Christine Branche here, who is the Director of NIOSH's Office of Construction. Her and Matt, I guess, together -- Christine, however you two want to do it, provide us an update of what's going on at NIOSH.

NIOSH UPDATE

MS. BRANCHE: Matt and I are going to share with you activities from two of our key actions, two of our key activities within the Construction Office, and accordingly, within the NORA Construction Sector Council.

It is interesting because several of you on ACCSH as well as several people on the room are part of our NORA Construction Sector Council, and we appreciate all of your work.

Matt is going to talk first about our efforts

to integrate safety and health into green construction rating systems. We have had quite a bit of success recently and we're very excited to share this with you.

MR. GILLEN: All right. What I'm going to cover is a bit of a recap on really the case for integrating safety and health into green construction, and then provide an update about what we are doing with NORA, and then finish up by giving some examples of some of the enhanced safety and health LEED credits that we have developed.

I apologize for the choice of color, it doesn't come out that well.

Basically, the reason we are doing this is because these green building practices really are on the increase worldwide. There is really like 25 different rating systems across the world now.

Sustainability right now in most definitions and practices, they really don't include safety and health when they talk about sustainability, but the meaning of "sustainability" is evolving.

I think we can really make a strong case, NIOSH folks and NORA, we feel a strong case can be made

that if we are going to be truly comprehensive thinking about sustainability that really needs to include safety and health. We have been thinking in that direction.

Why should we focus on sustainable construction? In one case, there are some new hazards. In a lot of cases, it's mostly familiar ones.

Here's an example of a worker doing solar installation. It's a fall hazard here the way the job has been set up. It's kind of sad because this is actually an innovative partnership, and this person is learning the job, they are pretty much learning it in an unsafe way.

You can't really hold on to the ladder correctly doing that. In some cases, there are familiar hazards. It is just it increases the exposure to the hazards in what's going on with the green practices.

Really, worker risks are not being routinely considered when we develop green practices and products, and that's part of the problem.

There is this rationale for the hazards and

concerns. The other rationale is opportunities. These guidelines and rating systems really are encouraging innovation and best practice. It's not about compliance. It's about best practice.

Here's an example of Department of Energy guidance on workforce guidelines for home energy upgrades, when NIOSH and OSHA were able to provide input and get safety and health mentioned along side how do you do this, how to do it safely.

There are opportunities there. Those opportunities give us leverage for us to advance safety and health best practices, which I think is something we all want to do.

There really should be this logical overlap between environmental and occupational best practice instead of a disconnect or them going in different directions, which is kind of what the situation is now.

That in kind of a nutshell is kind of the case for why we are pursuing this.

For NORA, one of our NORA goals involves construction hazards prevention through design, and there was a specific sub-goal that said hey, within

four to six years, let's develop methods to utilize the U.S. Green Building Council LEED rating system to implement, to get more prevention through design in other activities.

Again, this is the most widely used in the U.S. systems, and if you think about it, there is more than 100,000 of these LEED APs, accredited professionals.

Just think of the power if they are seeing, oh, yeah, and when you are planning for this, you're designing for this, you need to think about safety and health. There is some real value to that.

Green construction was selected as one of the NORA construction focus areas for 2011 and 2012. Dr. Branche is going to address the other focus area as well.

We put together a coordinating committee and work groups, and here's the two co-chairs, Mike Beam and Brian Kleiner, the co-chairs of that group.

Some of the activities, Dr. Howard met with Rick Fedrizzi, he's the CEO and leader of the U.S. Green Building Council, in February of 2011, to

initiate discussions, to talk about this link between occupational safety and health and green construction.

Since that, the coordinating committee has done some work. We went through all the 2009 LEED new construction credits to do a credit by credit review, which of them do address safety and health or which of them impacts safety and health I should say.

We identified specific ones for what we call "enhancement." In other words, if a particular credit does perhaps involve the potential for more exposure to a hazard, what language could we put in the credit itself to address that.

We thought of that as an enhanced credit. We developed the actual draft credit language. We put all that in a report with six examples of enhanced credits, and we provided that report to the U.S. Green Building Council.

Since then, we have had two additional meetings with them that have gone pretty well. I think they are beginning to get it and understand this link and how we have done it.

What we tried to do is we tried to research

how they do credits, and we tried to word all these things using the way they described things and how they think about things as well.

Again, when we evaluated the new construction credits for safety and health, we divided them into three categories, positive's, so these are credits that actually could reduce construction and maintenance worker exposures and risks if perhaps we added a little more safety design and planning measures.

There are actually seven credits that we thought actually could be good for workers, construction and maintenance workers.

Negative, these are ones where if you didn't do more additional safety design and planning measures, they could act to increase exposures and risks to construction and maintenance workers. We found 11 there.

The vast majority we saw as kind of neutral. An example I like to give is the credit for bike parking lots. It's probably neutral for safety and health, things like that.

After we did that, we went and looked through

specific ones. We found, for example, indoor environmental qualities. Day light would be the credit that encourages people to use more sky lights, for example. There is an example there, sky light safety.

Indoor air quality management, low emitting materials. Construction waste management, the idea of recycling more of the materials on the waste site -- on the construction site.

Heat island effect is the actual credit that involves green vegetative roofs.

These are some of the credits we chose to focus in on in more detail and to develop language.

What we did when we developed the language is again, the LEED credits themselves, we tried to match the level of detail they used there. The LEED credits really talk about what needs to be done. They don't give all the details on how to do it. They focus more on the design and planning as opposed to what the construction contractor needs to do.

Reference guides are the back-up material that do go into more detail on how to do it. We provided reference guide draft materials as well for these

credits.

Here's an example of one. This is for heat island effect, roof. What this is saying is the fact that roofs heat up and can create more warming in cities, et cetera, so they give people a credit if you use one of these highly reflective roofs. They call them "high objeto roofs." Instead of it being a dark colored roof, it's white, so it reflects most of the heat. That's something you can do.

You can do a vegetative roof where you actually grow plants up there.

We added language that said develop and implement a safe roof plan to prevent falls and other hazards involved with making the roof and maintaining it.

If you have one of these highly reflective roofs, it's supposed to be cleaned on a regular basis to keep it reflective, or the vegetative roof, somebody has to go up on the roof to maintain the plants.

We want those workers to be safe and not be exposed to falls.

The reference guide material gave additional

information about what would be in a safe roof plan. You need structural integrity, fall prevention, safe access to the roof, and there we provided different options that people could consider, and how you document that in the LEED system.

Just quickly, this gives you some ideas of that.

Here's another example of a credit for construction indoor air quality management, where in some cases LEED is concerned about protecting the duct work so it doesn't get exposed from construction dust and things.

What we said here is a better approach is to sort of reduce the amount of dust that's created by using local exhaust ventilation or suppression methods, so let's use those methods which protect the construction workers more and would also protect the duct work from getting contaminated as well.

We inserted examples of language in bold and shared that with the U.S. Green Building Council.

Where we are now is it turns out that the 2009 LEED, which is the one that we looked at in the most

detail, is now actually in the process of evolving to 2012 LEED. That is both a good and a bad thing.

The good thing is LEED does evolve, so in the future, we are anticipating that in the future, we will have more credits with worker safety and health in that.

In the short term, it means we sort of need to go back and take what we have done and make sure it matches up with the 2012 LEED.

For example, there is like 28 new credits and new categories in 2012. We need to update the work we did to address the 2012 version.

We have this preliminary report that we shared with the Green Building Council. We'd like to update it and then release it, post it on our website, et cetera, so that more people can learn about this approach as well.

We wanted to share with them first to get feedback, make sure we were on the right track. That was the rationale behind the preliminary approach.

We want to pursue additional strategies. The LEED credit system has pilot credits where you can

create a new credit or enhanced credit. People get innovation credits for trying the pilot credits. That is how they learn about what new credits are successful.

We would like to develop new safety and health pilot credits. We would like to do some webinar for LEED people, and we are going to continue our discussions and outreach with the Green Building Council on this topic.

We think it has a lot of potential. We see it more of a long term commitment to make, to sort of integrate safety and health into green construction, and here's the green construction committee that has been working with us in NORA, and our contact information.

That's what we wanted to share with you to bring you up to speed on that.

Any specific questions?

MR. RYAN: Matt, I just have one question. You said like the 2012 version where they are adapting new LEED credits, how often are they going to be doing that?

MS. BRANCHE: I think this is the third update, every two or three years, but this last version, I think, has taken a lot longer. It's going to take them almost through the end of 2012 to produce the 2012 version.

One of the things they assured us of is the fact that this pilot credit mechanism does allow new and innovative and in our case worker safety issues to be integrated and available to LEED users, even if it isn't in the actual manual.

MS. DAVIS: Great work. I wanted to get some clarification on this pilot credit issue because clearly although credits you have recommended already have not been adopted, so is it possible those could be pilot credits in this next stage, or are you aiming or hoping to actually see the recommended credits adopted and add more?

MR. GILLEN: We have a few that were very minor wording changes, that the Green Building Council is open to incorporating them in 2012.

We have to make the conversion from the 2009 wording to 2012 and see if that still holds up. If so,

that could give us some short term gains.

The others, we would probably consider the pilot credit approach is the best way to do it.

MS. BRANCHE: I think one of the real benefits in the approach that we're making is the people with whom we have been meeting have -- I think they have kind of got religion now. They see this as an opportunity and working with them in stages.

Matt mentioned in one of the last slides the fact that we're looking at the pilot credits, webinar's and some other things. This is a way to help educate and bring along their stakeholders to understand how important this integration is.

I think that's important. Would it have been good for us to have seen a full integration of all of the information that we would want to see in each credit? That would have been terrific. If it would have caused a back lash among their stakeholders, then it would have been one step forward, two steps back.

I think with this pace that they have asked us to take, it's a balance between the fact that they have public comment periods, the last opportunity for public

comment, and the fact that they want to be able to use as many different mechanisms as possible to educate their stakeholders.

I think this is a win no matter what. So many of our colleagues in other departments and in other organizations have tried to approach the U.S. Green Building Council and have met with no success at all.

Not only did we have a successful meeting with them, but we were invited to do this integration, offer our observations, and they have essentially taken them. It may not be in exactly the form that we want them, but they are taking them in one shape or another. I think that is really a boom for all of us.

CHAIRMAN STAFFORD: I concur, it really is great. When we first started this process a few years ago to think that we could get USBGC to even consider this was really an up hill battle.

You two and the work group and Dr. Howard for taking this on, really, this is great strides forward. We all appreciate that.

MS. BRANCHE: The other issue I'm going to share with you, as Matt said, we have taken two areas

from our NORA Construction Sector Council, and among our 15 goals, on which to focus.

We have been really busy. I'm quite pleased to tell you about a planning effort for a national campaign to prevent falls and fatalities.

As Matt said, this integration was taking shape within our goal 13. I am going to be talking about the one that deals with our efforts to reduce falls among construction workers.

Why do we focus on falls? A couple of reasons. First, for roofs, scaffolds and ladders, these three issues combined count for roughly two-thirds of all fatal falls in construction. They represent very different problems.

For example, in roofing, the key problem is not having or not using fall prevention. For ladders, we have problems that include using the wrong ladder, using a defective ladder, or not using the ladder correctly.

For scaffolds, the issues include incorrect assembly, and then hazards during assembling and dissembling the equipment or the scaffolding.

The data I want to show you here, and I apologize, you can't see there are two different shadings in color.

There is a lighter one for younger workers. I apologize this is not depicted very well in this slide projected here.

This is types of fatal falls. I apologize. I did not select what the category "Older" stands for. That is not my nomenclature.

(Laughter.)

MS. BRANCHE: "Older" is 55 or more years. "Younger" is 15 to 54.

What I do want you to see is the orientation. For roofs, ladders and scaffolds, for the years 2003 to 2008, the largest numbers or percentages of fatal falls occurred in those three areas.

These data or this particular analysis is from Dr. Sue Dong at CPWR's Data Center.

As well, when you look at the most frequently cited serious violations in construction, fall protection, portable ladders, and another kind of fall protection issue, these are where you are seeing the

large number of citations.

We have data to support why we would want to focus on falls.

Just as we did for the integration of worker safety and health issues into the rating systems in construction, for green construction and sustainability construction, we formed a work group as well, or a coordinating committee as well, for this particular issue.

Scott Schneider, Dr. Janie Gittelman at CPWR, lead that effort, and for a time, before he retired, Tom Broderick at the Construction Safety Council also participated in leadership here.

That group decided to form working groups that focused separately on falls from roofs, scaffolds and ladders. Each of those working groups was made up of people from the NORA Sector Council, but we also involved subject matter experts from organizations, whether it was union groups, trade associations, or employer groups.

We wanted to get as many subject matter experts involved in this as possible.

The groups examined relevant data, identified existing materials, including existing campaigns, regardless of whether they were local or regional in nature.

We were also able to get information from subject matter experts in the U.K. and the European Union, and where we could, we were able to get information, including existing campaigns from them and Canada as well.

We wanted to identify target behaviors that needed attention, and then also look at target audiences.

Why would we go through all this effort and why do we think that a campaign is important?

Much of what we do in safety and health issues in construction has to do with consultations or enforcement of regulation. That is not to say that a campaign would set aside that, it's not to diminish the importance of those activities.

The idea of putting together a campaign is to add to our arsenal of tools to deal with this issue.

This is something that the coordinating

committee in particular but the NORA Sector Council more generally thought was important, and we thought the timing was right.

Resources have been a challenge. We met with OSHA to be able to update them on our progress. There was no commitment made by them initially, but we thought that first of all -- they are represented on the NORA Sector Council -- in meeting with the OSHA leadership here, it was important for them to understand why we thought it was important and would they want to play a role.

We certainly understand that any effort that would take place, whether a campaign that we think is important, whether it would happen on a local, regional or national basis, it couldn't be divorced from the enforcement that OSHA is key for.

It turns out that in October, and I understand Mr. Maddux did share some of this with you this morning, when we met with them in October, they told us they decided to use the Spring/Summer of 2012 as the time to focus on a fall prevention campaign in construction, and they would put the resources towards

that.

All of the effort -- my understanding is all the effort that OSHA put into the heat stress campaign for 2011, they would now apply towards fall prevention in construction.

Another time of rejoicing was had on the other side of the Capitol.

We have been working with a social marketing expert. The reason why I think this is important is it's interesting, in talking with Scott and Janie and all of our colleagues who have been working in this, we certainly have an idea with an eye to health and safety of what might work.

It's important to understand and bear in mind the target audience, and what would work for them.

It's interesting also to conceive of if you have a soap manufacturer, they conduct focus groups all the time. There is a reason why you buy the soap you buy. There is a reason why something is very interesting to you as a person making a purchase.

With that kind of effort in mind, we thought it was important to bring on a social marketing expert.

They prepared an environmental scan that covered 74 different campaigns from the United States, Canada, the U.K., and the European Union.

They prepared a plan for focus group research. I have been able to harness some resources for the environmental scan, and at least the plan.

When OSHA told us in October they wanted to move forward deliberately, then we had to execute that plan, and with Pete's decision and his being at the helm of CPWR, CPWR provided the resources for us to go forward into focus group mode.

Amazingly, our social marketing expert did not fall over when I told her about our time line because we need to have our information to OSHA by the end of January with sample plans, a sample campaign, sample campaign theme, sample tag lines, sample images, to jointly make a decision for OSHA to move forward.

In two weeks' time, after Thanksgiving, just last week, that two week window, our social marketing group completed 11 focus groups in three cities. The primary target audience is small construction contractors, primarily residential. Secondarily,

supervisors and foremen. The tertiary audience is workers, including Spanish speakers.

Among the focus groups, we did have some that were solely Spanish speaking, and then small construction contractors, foremen and supervisors were in one type of focus group, workers were in a separate one.

They identified attitudes and concerns in the focus groups. They tested out themes and materials, and one of the key aims was to learn what channels were best for people to learn the information or to absorb information, and then to help us focus on messages that would be appropriate for changing behavior.

The coordinating committee will work with the social marketing expert and OSHA to draft the materials that we will present to them.

We will also prepare an evaluation scheme. What has been very interesting about the campaigns that we have seen is not all of them have been evaluated, so it's difficult to understand how well they have made an impact in the populations that they targeted.

We will also prepare outreach approaches to

supplement what OSHA plans to do. Scott and Janie have talked about, for example, this is just something as a sketch, there's no commitment here, but we have talked about even helmet tags and so forth, helmet stickers, something like that.

I'm going to show you some samples or some examples of some of the information that was shared in the focus groups and that were drawn from the environmental scan.

In this example of a falls campaign, it focused on ladders. It compares the right and wrong kind of work atmosphere. There is quite a bit of debris in the area, around the ladder on the left, and a clear area on the right.

In this other example from New York City, it's a focus on the family. You want to execute safety and health issues because you want to be able to come home to your family.

In another one from New York City, that was just this past Summer, experience is not enough was their campaign theme.

In this last one or next to last example I'm

going to show you, they have used cartoon images, like humor. You will recall that yesterday afternoon in the Diversity Multilingual and Womens' Issues work group meeting, we talked about the fact that this kind of imagery wasn't -- you all didn't think was very successful, and many of you expressed concerns about that.

The one thing I can tell you from the focus groups we have conducted, we have one more city to do, this didn't go over very well with people either.

The idea of cartoon images or super hero, that has now been taken out of play.

I'm glad the social marketing group wanted to use as many different types of images. It isn't what we want. It is what they are going to respond to.

The last one I'm going to show you as an example is from the U.K. It's from what they call their Shattered Lives campaign. The tag line here is "Simple Mistakes Can Shatter Lives."

They have a rather abrupt imagery here. You can see the head is shattering at the bottom of the image that's projected here.

What we are looking at producing is a campaign that is national in scope with a launch on Workers' Memorial Day next year. It will cover the Spring and Summer of 2012.

A goal of the campaign would be reducing injuries and fatalities from falls in construction, and we are looking at roofs, scaffolds and ladders as the fall issues that we want to address.

Aside from informing you of our activities, I want to make certain that you understand that as members of ACCSH, we would want you and the organizations that you represent to help us prepare for the launch.

We would want you to help get the word out just as so many of you did for the heat stress campaign last year. We would want that same arsenal of effort for this particular activity.

Another issue that's important is we keep the message going after the launch. Workers' Memorial Day and the build up for it will be important, but the issue is evergreen for this trade, for this sector.

We would want the messages about fall

prevention to have a life well beyond the launch, well beyond Summer of 2012.

We are going to need your assistance in doing that.

So, I'll take your questions. If you don't think of them today, you can certainly contact Scott, Janie or me with your volunteering efforts and any questions you might have.

CHAIRMAN STAFFORD: Thanks, Christine. Liz?

MS. ARIOTO: Why is this limited to residential? Is there a reason for that?

MS. BRANCHE: Fall prevention activities for large construction actually tends to occur. Big construction contractors tend to practice and make available fall prevention. It's the residential construction, the weekend person that will come by and do a roof repair at your house, that is where we are finding that fall prevention -- it's not made available. They're not told. There's no information to let them know you need to follow along with these OSHA guidelines just like anybody else.

CHAIRMAN STAFFORD: Christine, we had this

discussion in the work group yesterday about the heat stress campaign. I'm assuming as part of OSHA's deal that there is an arrangement in getting the materials out, that those materials will be pushed out to all the state plan states. That is kind of their obligation.

I think you raised this yesterday, Chuck, about not getting some of the information or the educational materials that came out.

MS. BRANCHE: The educational materials, interestingly enough, were provided by the CAL OSHA campaign that OSHA duplicated.

As we work with our coordinating committee and with the social marketing expert, if there are educational materials that we believe are going to be an important adjunct, based on my participation in yesterday's meeting, work group meeting, I think it will be important for us to make certain that kind of information is distributed much more widely than what we saw for the heat stress campaign.

CHAIRMAN STAFFORD: Good. Chuck?

MR. STRIBLING: As great as the heat stress campaign was, it was fantastic, and I told you

yesterday some of the efforts we undertook in the Commonwealth of Kentucky.

The states didn't know about that. Steve, correct me if I'm wrong.

CHAIRMAN STAFFORD: He stepped out.

MR. STRIBLING: We didn't know about that until after the fact. We didn't get a head's up that the campaign was coming.

Consequently, our implementation of putting people in the field to spread the message, it took us a while to ramp up. We did the press releases. We did the quick stuff.

On this, I didn't want to go that route and having worked on the Construction Sector Council and being aware of the upcoming campaign, I extended an invitation to Dr. Branche and a few others -- Kentucky is hosting the next OSHBA meeting in February.

I have asked them to come to the OSHBA meeting and share this information so the states know it's coming, and can actually begin thinking about some type of implementation and dissemination plan to get the word out in their states.

I know OSHA will send us the information in the final product.

I promise you the state plans are going to know about this campaign before it hits the street. I anticipate -- like I said before, every state has a consultation division. I am very confident all the states will take this and run. Falls is certainly something every state wants to drive down the rates on.

CHAIRMAN STAFFORD: Thank you.

MS. BRANCHE: If I may in response to that, first of all, Scott Schneider will be the person who will be making the presentation at that meeting. We really appreciate Chuck extending that.

The other thing is in all deference to OSHA, I think the idea of the heat stress campaign, as I understand it, was an idea or they made the decision rather late.

One of the reasons why we have such a pressing deadline is because they want to get the information prepared well in advance so we can get information out in a much more organized fashion so that you are not left in a rush.

MS. DAVIS: I just want to reiterate the point of getting information out early to your partners and in particular, I'm thinking about your state based partners.

We had a national meeting last week and this wasn't mentioned to anybody. State based partners, we are in a position actually to generate additional materials and data that can be used to kind of drive local initiatives.

I think it's really crucial to have this engagement early on with partners.

A question that I have, and I think this is distinct from the water, rest, shade, the kind of technical aspects of implementing fall prevention, especially dealing with the three leading causes, that are much more complicated than water, rest and shade.

Clearly, I can envision an awareness campaign, but where the back-up, the really user friendly back-up materials, about what to do once you're aware, what are those going to be and where?

I know the home builders have a fall prevention guide. CPWR has a fall prevention guide.

There is this whole issue of using other people's materials.

Are NIOSH and OSHA going to create their own kind of back-up technical education, user friendly back-up material?

Is there a way you can draw on partners using the materials they already have? I'm just raising this question because I see it as more complex.

MR. STRIBLING: Not to speak for NIOSH or OSHA but to speak for -- one of the reasons we wanted to bring this up at OSHBA in February is for that reason.

If we do the awareness, what's the next step? How are we going to get the technical information in their hands, so every state has the opportunity to pre-plan and prepare.

Hopefully, you're going to get a lot of phone calls and you're going to get a lot of people calling and saying come help us.

We have to have that material ready as well.

CHAIRMAN STAFFORD: For those of you not familiar with Workers' Memorial Day, it will be on April 28, 2012. That will be the official launch date.

Is it backing into that date, is there like a set time when materials will be prepared and ready to disseminate out?

I know this is very quick turn around, the whole thing.

MS. BRANCHE: Very quick. Aside from the fact that we have a production schedule to honor, some of the activities that I only sketched out for the coordinating committee that remains after we meet OSHA's deadline to get the materials that are going to be mass produced, is to do some of what Tish, you have been suggesting, and Chuck, what you have been suggesting.

One of the things that has been very helpful is that there are quite a number of pieces of information available that rather than having to produce them afresh, we can pull them in because they are already ready.

One of the things that our social marketing group told us that I think is interesting is that despite the availability of so many materials that are helpful, no one knows about them.

In all of the 11 focus groups, no one had heard of any of them. This is an opportunity to shed fresh light on materials that various organizations, either that you represent, that are here in the room or among the broader stakeholder community, that's great. I'm not interested in reinventing the wheel, and frankly, we don't have the resources to do that.

To be able to draw on materials that are already available, I think, is a very critical step. I think it helps to draw in the involvement of the stakeholder community, which is broad for these three areas, ladders, scaffolds and roofs.

CHAIRMAN STAFFORD: Any other questions or comments? Mike?

MR. THIBODEAUX: Dr. Michaels gave us a list of some things or maybe Jim did, a list of some things that they already have available, talking about residential fall protection guidance, PowerPoint presentations and the California presentation that is also going to be done in Spanish.

NEHB and OSHA has done an alliance and has a four hour presentation which could probably be

compressed on residential fall protection in all of these areas that you are talking about.

I think we have done almost 50 presentations around the country on just the fall protection portion of it. We probably need to do it a lot more.

I think this Spring and Summer push is one area that we as an organization as well as the state plans could probably use this a lot more than what we have been able to do over the last year or so.

MS. BRANCHE: That is my hope, that by virtue of there being so many different organizations that have materials available, this is a way for them to use this, the over arching nature of this campaign, to shed light on materials that they already have that can be re-promoted among their stakeholders.

I'm very excited about the fact there are so many materials that are available that we can pull into this campaign.

CHAIRMAN STAFFORD: Scott?

MR. SCHNEIDER: I want to thank Christine for a great presentation.

We looked at this issue. If you look at the

data on falls in construction, residential falls in particular, and they ask why is this residential. More often than not, it is because there was no fall protection available at all.

I think the campaign decided to focus on contractors as the primary audience as opposed to workers, and the goal was really to sort of motivate contractors to provide fall protection.

Once they are motivated, there are a lot of places for them to go to get the information on how to do it.

We will be able to direct people to that or go to OSHA Consultation or NEHB.

The Roofing Contractors Association says we're frustrated because we feel like there could be a lot more people using our materials, but we don't get the calls.

I think we are trying to generate interest and motivation. That is really the main goal. We are looking at different kinds of messages, how do you motivate people.

The focus groups so far, what we have learned

of them, it is eye opening, and we asked them how do you get information, all these issues.

Hopefully, if we can crack this problem, how to reach small contractors who aren't aware of these materials, this will be very helpful for other campaigns or getting other information about safety and health issues out to people.

MR. GILLEN: That is what I find interesting. In some respects, we have the technical materials. Sometimes what there is a shortage of is the materials that motivate people to want to use them.

MS. DAVIS: I was speaking to the issue of the barrier that links to certain materials are not possible by Government agencies because materials come from different interests. How are you going to overcome that. I don't expect you to answer me right now.

MS. BRANCHE: I would say my understanding is as a regulatory agency, there are certain things that OSHA can't point to, but we as a research entity can, and then because we have such a broad stakeholder engagement in helping to plan this, where the

Government would be prevented from pointing specifically to certain information, our stakeholders can.

CHAIRMAN STAFFORD: Thank you. Sarah?

MS. SHORTALL: I have a question about the materials. Increasingly or there is an increasing number of small construction contractors who the contractor themselves does not primarily speak English.

Are you going to be gearing any of the materials to those contractors? If so, what languages?

MS. BRANCHE: First, I would say absolutely. I would say Spanish first. We had a very specific reason for having several of the focus groups be for Spanish speakers only, because we realized how critical that is for this industry.

There are other languages that I think we will have to consider, but I think we want to get past this first hump.

This is absolutely fascinating. The deadline, I thought, was unobtainable, but it's been amazing how people have risen to the occasion. It's really a wonderful display of a public/private partnership in

action. I can't speak more highly of our colleagues than this.

CHAIRMAN STAFFORD: Thank you, Christine and Matt. Sarah, any administrative issues before we adjourn for lunch?

MS. SHORTALL: Yes. I'd like to enter a couple more exhibits into the record.

I'd like to enter into the record as Exhibit 9 Nail Gun Safety, A Guide for Construction Contractors, a joint publication of OSHA and NIOSH, which is OSHA Publication No. 3459-8-11.

As Exhibit 10, Integrating Safety and Health into Green Construction, a PowerPoint presented by Matt Gillen of NIOSH.

As Exhibit No. 11, Preventing Falls in Construction, Planning a National Campaign, a PowerPoint presented by Dr. Christine Branche, NIOSH.

(Exhibits No. 9, 10 and 11 were marked for identification.)

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CHAIRMAN STAFFORD: Okay. Thank you. Any other comments or questions?

(No response.)

CHAIRMAN STAFFORD: We will adjourn for lunch.

(A luncheon recess was taken.)

A F T E R N O O N S E S S I O N

CHAIRMAN STAFFORD: I am going to bring the meeting back to order, please. Thank you. Good afternoon, everyone.

Let's start our afternoon agenda. We are going to start with our first work group report of the afternoon. As you heard Dr. Michaels say, even though there are some hurdles in the timing on the I2P2 or the program standard, it remains the Agency's number one priority.

Obviously, it's very important that ACCSH have a work group to continue to hammer out the issues on the program standard and how we deal with the program standard with the specific nature of the construction industry, our multi-employer sites.

With that, I'd like to turn it over to our I2P2 work group co-chairs, Tish Davis and Matt Gillen, for the work group report.

INJURY AND ILLNESS WORK GROUP REPORT

MS. DAVIS: Thanks. These minutes are somewhat longer than I anticipated, so bear with me.

The meeting was called to order by work group

co-chairs Matt Gillen and Tish Davis. There were 32 attendees. Following introductions, I gave a brief recap of the minutes from the July 2011 work group meeting. This was followed by presentations about the experience with the illness and injury prevention program rule in California.

Steve Rank provided information about the CAL OSHA illness and injury prevention program standard. This rule, which went into effect in 1991, requires all employers to develop and maintain an effective illness and injury prevention program, and list key employee health and safety responsibilities.

Mr. Rank reported that the experience in California has been very positive. The rule is simple and straightforward. It is well received by employers and has been effective in getting everyone on the same page.

It is also a good proactive tool, and has been useful to employers in demonstrating good faith to OSHA. It is also being used in the bidding process where contractors are asked to submit copies of their written programs.

The rule applies to all employers regardless of employer size, and CAL OSHA has done much to assist small employers. It has a well received website with information and model illness and injury prevention program templates. The material compiles relevant information from a variety of different health and safety standards, which employers find very helpful.

An example of those materials were disseminated and are submitted for the record.

CAL OSHA Consultation is also available to assist small employers in developing their programs.

In response to questioning, Mr. Rank reported that the program is more than a paper exercise and CAL OSHA in conducting inspections is serious about making sure the elements in the program are not just on paper but in place.

There was subsequent discussion about the importance of training OSHA COSHOs about how to assess compliance should an I2P2 program be promulgated.

It was noted, however, that other standards do have program requirements, and COSHOs are experienced in assessing these programs. For example, the

respirator programs.

There was further discussion about whether employers could be cited for the same violation on both a program standard and a specific standard. State OSHA representatives at the meeting reported this is not done.

ACCSH member Liz Arioto provided background information about the California injury and illness prevention program rule and the experience in California. There was initially substantial resistance to the rule, concern it would not be useful. Over time, however, she found that it does work and believes safety has improved as a result.

While it may be only a paper exercise only for some employers, it is truly helpful to contractors that care.

Both Mr. Rank and Ms. Arioto emphasized that the simplicity of the California program standard contributed to its success.

There was a request from the audience for information on whether the I2P2 -- the illness and injury program of California has led to a decline in

injuries. Mr. Rank reported that there has been a decline in citations issues per inspection.

Apparently, there has been some work by Rand examining this question and the ACCSH members agreed that would be useful to have a presentation on the results of this and any similar studies at the next work group meeting.

In response to a question as to whether Workers' Compensation insurance reduced premiums if illness and injury prevention programs were in place, a respondent from the insurance industry in the audience reported that Workers' Compensation rates are based on experience.

However, he and others agreed that the presence of a program is considered by underwriters in conducting risk assessments of client companies.

When asked if CAL OSHA had a standard metric for evaluating the effectiveness of their illness and injury prevention programs such as OSHA Form 33 used to evaluate VPP companies, Mr. Rank reported that CAL OSHA uses checklists in determining if programs meet the standard.

The next speaker, Victoria Bor, an attorney for the Building and Construction Trades Department, shared perspectives of the I2P2 subcommittee of their health and safety committee.

The subcommittee has been grappling with the issue of how to implement effective health and safety programs on multi-employer construction sites. They believe it is not sufficient to simply have the overall contractor checking to see if subcontractors have programs.

It is critical to address the dynamics of the construction industry in developing a program standard. These dynamics post challenges and it is important that industry and labor work together to identify solutions.

The building and construction trade subcommittee offered a set of guiding principles to inform development of a program standard.

Given the dynamic nature of the construction work site in which the environment is constantly changing and risks to workers depend not only on their work but what is going around them.

Here are the principles. Health and safety

programs must operate on two levels, employer based and site-wide. Must be responsive to the dynamic nature of the work site, i.e., involve hazard analysis as part of pre-job planning and on an ongoing basis to identify new hazards as work progresses, and must include systems for clear, open and consistent communication.

Discussion followed with some examples provided of approaches fostering effective communication on multi-employer sites.

Next, Mark Hageman of OSHA's Directorate of Construction -- I believe --

COMMITTEE MEMBER: Standards.

MS. DAVIS: We have to correct that. Provided a brief update on the status of the I2P2 rulemaking. He reported that it is still a top OSHA priority, that they are close to completing the regulatory feasibility analysis and moving forward with the process.

When asked if the proposal will follow the California model, which really focuses on individual employer plans or the multi-level model discussed by Vicky Bor, Mr. Hageman responded that a draft standard will have some multi-employer components.

It was agreed that the work group needs to learn more from others about experiences establishing programs on multi-employer sites. The co-chairs asked ACCSH members and those present to identify and forward names of potential speakers who could share information about effective practices at the next work group meeting.

It was also suggested that OSHA identify potential speakers from employers participating in VPP and SHARP.

The meeting adjourned at noon.

CHAIRMAN STAFFORD: Thank you, Tish. Matt, do you have anything to add?

MR. GILLEN: No.

CHAIRMAN STAFFORD: Thank you. We have heard the work group report. We need to entertain a motion from the committee to approve the work group report.

M O T I O N

COMMITTEE MEMBER: So moved.

CHAIRMAN STAFFORD: Second?

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: The motion has been made

and seconded. Any discussion?

(No response.)

CHAIRMAN STAFFORD: Hearing none, all those in favor of accepting the work group report, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Were there any specific motions or recommendations resulting from the work group that you would like to bring to the committee for consideration?

MR. GILLEN: I wanted to suggest one. I thought the discussion about the guiding principles and all was helpful. I generally find guiding principles helpful at the very beginning of a process to think about things.

M O T I O N

I wanted to mention a motion, and it would be ACCSH recommends that OSHA consider three basic principles for developing an I2P2 proposal to effectively address multi-employer construction work

places.

One, safety and health programs must be able to operate at two levels, employer based and site-wide. Two, safety and health programs must be responsive to the dynamic nature of the construction work site, and three, safety and health programs must include systems for clear, open and consistent communication.

It seems like those are basic but important points that might help guide OSHA in thinking about I2P2 and how it would work for construction.

CHAIRMAN STAFFORD: It certainly seems like that was the consensus we had from the work group and the participants yesterday.

The motion has been made. You're asking the full ACCSH to recommend to OSHA these guiding principles be adopted or considered as the rulemaking proceeds.

We have a motion. Is there a second?

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: We have a motion and a second. Any discussion?

(No response.)

CHAIRMAN STAFFORD: Hearing none, all those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Okay. Sarah, that motion has been approved unanimously by the committee. Is it appropriate for us now to make a motion and second to recommend to the Agency from the full committee?

MS. SHORTALL: You just did.

CHAIRMAN STAFFORD: I thought we made a motion to accept it as ACCSH, the body. Okay.

MS. SHORTALL: The motion was that ACCSH recommends that OSHA consider. That is your recommendation to OSHA.

CHAIRMAN STAFFORD: Perfect. Thank you. Anything else on I2P2?

(No response.)

CHAIRMAN STAFFORD: Great.

MS. SHORTALL: I'd like to enter into the record the approved I2P2 work group report from the December 14 meeting as Exhibit 12.

(Exhibit No. 12 was marked for identification.)

As Exhibit 12A, the California OSHA workplace injury and illness prevention model program.

CHAIRMAN STAFFORD: Thank you. At the beginning of the meeting, we had to be semi-flexible. If you look at our agenda now, we are ready for a break. I think we should go ahead and proceed with the agenda. There is no law against if we get through this afternoon's agenda and we adjourn, that we cannot adjourn earlier than 3:30 or 4:00.

I would like to remind everyone that's new in the room that if you want an opportunity to make public comment, we are going to do that at the end of the day and at the end of tomorrow's session.

If you are interested in commenting, please sign up on the sign up sheet, which is in the back of the room.

We will move forward and do the prevention through design work group report. That will be Walter Jones and Matt Gillen.

PREVENTION THROUGH DESIGN WORK GROUP REPORT

MR. JONES: Thank you. I don't have my other co-chair on here, and I apologize for that. I was just typing these up and realized I don't have Mike Thibodeaux as the other co-chair on that.

We met yesterday. The meeting began with self introductions. I don't know if I'm going to read through the whole thing. I'm just going to try to give a gist of what we pretty much went over.

I did a presentation on what prevention through design means. A lot of times, it's a concept that is not fully characterized often, and folks just nod their head as understanding it.

I wanted to explain to folks that basically it's about project designs, avoiding unnecessary foreseeable risk to workers, and that designs include information about aspects of the project that may affect the health and safety of workers.

Studies have shown that 20 to 40 percent of construction fatalities can be attributed to design. It is also shown that the best opportunity to apply the full weight of the hierarchy of controls to address

work site hazards is at the front end during the design phase of projects.

Currently, the responsibility for construction safety and health is at the back end on contractors and employees, where they only have administrative procedures and personal protective equipment as available choices for protection.

In the presentation, we provided -- a lot of times, prevention through design can be such a nebulous concept, we tried to provide some concrete examples of what it means by prevention through design.

The number one way folks can understand it easily is built in anchor systems. Anchor systems that are designed right into the plans, and then built in. They can be used during the construction process as well as during building and maintenance during the life of the building.

Another concept is prefabrication stairways and prefab walls, putting together parts of a project in a controlled environment and taking the parts out and leveling them together, for lack of a better term.

Another good way of looking at it is having

parapets built to 39 or 42 inches and uses as fall protection whenever possible.

I also tried to point out that as great as this concept sounds, there are barriers to the implementation of prevention through design.

Primarily, designers are concerned about having additional liability of worker safety. They are not trained in worker health and safety as well. They don't want that liability and not being familiar with how they are going to deal with it as well.

Secondarily, building codes conflict and do not always support prevention through design concepts, and then the number one thing around this is just the idea that it's going to cost more money.

The question before the committee as I saw it was whether there's a role for the committee and a role for OSHA in addressing designs since OSHA has often been seen as primarily addressing their employer and employee relationship.

Through the help of Matt Gillen and others, I was able to show that there are already at least 13 references in OSHA construction standards that

specifically point to design references that employers and owners have to comply with to comply with OSHA construction standards.

Additionally, even though OSHA primarily concerns itself with the employer/employee relationship and the enforcement angle, the OSH Act is pretty broad. The intent of the OSH Act was to promote occupational safety and health.

It also empowered NIOSH and OSHA to train and teach and educate about occupational safety and health.

Although we tend to narrowly look at it as an enforcement and standard setting organization, OSH Act gives it a lot more power than that, and we shouldn't lose sight of that.

After that, Eric Lahaie from the Directorate of Cooperative State Programs, made a presentation on the alliance program, construction roundtable development, and the design for safety fact sheets they developed.

OSHA established the alliance construction roundtable to have participants develop and share compliance assistant tools and other resources for

workers and employees.

The roundtable has been working on addressing some of the biggest hazards in construction, falls, which we heard a lot about today from the Fall campaign and what not, through the development of fact sheets aimed at project designs.

One thing about prevention through design right now, the fall angle of construction is well characterized and should almost be implemented immediately in my opinion.

The fact sheets are currently housed at the alliance website and are in the process of being formatted for consistency.

Eric Lahaie asked the work group for recommendations and ideas for moving forward.

In light of what our conversations yesterday evening was about, I'm not really sure what the committee's next steps are.

We do believe that DOC should post the fact sheets on the website. They are posted now in the alliance section. The DOC website gets thousands and thousands of hits.

We do think this committee should recommend that the DOC move to establish a link to those fact sheets.

We do believe DOC should work with the roundtable to develop an outreach and dissemination plan for getting its products to the design community, owners and the public. How that is going to be done, I'm not really sure, but that's a recommendation that definitely came out of the committee.

The next steps for the committee as a whole, at this point, it looks like maybe it's time to be sunset in favor of other opportunities, and those are pretty much my comments.

CHAIRMAN STAFFORD: Thank you, Walter. Tomorrow at the end of this meeting we are going to have a discussion amongst the ACCSH about the reorganization of the various work groups. I think this is something to consider. I appreciate that suggestion.

We have talked about ACCSH having a maximum of six work groups, and it's just a matter of prioritizing our work, and maybe we can consider Walter's suggestion

that this is one we set aside for now.

There is already an alliance dealing with this particular issue. I think that will just be left for your discussion tomorrow as we figure out how to reorganize the work groups.

M O T I O N

CHAIRMAN STAFFORD: With that said, I would like to entertain a motion to approve the work group's report.

COMMITTEE MEMBER: So moved.

COMMITTEE MEMBER: Second.

CHAIRMAN STAFFORD: The motion has been made and seconded. Any discussion?

(No response.)

MR. JONES: I just want to amend the minutes where I have "XXX" there. It should be Eric Lahaie.

(Laughter.)

MR. JONES: I didn't have the correct spelling of Eric Lahaie's name when I was writing these minutes, so I had a place holder here of "XXX." I just want to amend that.

CHAIRMAN STAFFORD: Okay. The motion to

approve the work group's report has been made and seconded, and no discussion. All those in favor of accepting the work group report, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: You had two specific recommendations.

M O T I O N

MR. JONES: I make a motion that the alliance work group post its design for safety fact sheets or have their design for safety fact sheets linked at the DOC main page website.

CHAIRMAN STAFFORD: That is your first motion. The motion has been moved. Say it again, Walter.

MR. JONES: That the alliance program for construction roundtable -- that they post their design for safety fact sheets on or link their design for safety fact sheets on the main page of the DOC's website.

MS. SHORTALL: The alliance roundtable is not composed of only OSHA staff. I think your

recommendation would have to be that OSHA do something and not the alliance roundtable.

CHAIRMAN STAFFORD: I think the motion is that OSHA take the alliance roundtable materials and post it on OSHA's website.

MR. JONES: Yes. Either post or link. The idea is just to get it out there. I think they are heading there and that is what the committee thought.

CHAIRMAN STAFFORD: The motion has been made. Do we have a second?

MS. SHORTALL: Would you like me to read it?

MR. JONES: Please.

MS. SHORTALL: ACCSH recommends that OSHA post the alliance roundtable fact sheets on OSHA's web page or create a link to those documents.

MR. JONES: Correct.

CHAIRMAN STAFFORD: The motion has been made.

MR. THIBODEAUX: Second.

CHAIRMAN STAFFORD: The motion has been made, seconded, and we had discussions. Those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Any opposed?

(No response.)

CHAIRMAN STAFFORD: Was there a second motion, Walter?

MR. JONES: I'm not sure if it is necessarily a second motion. Maybe I can get some advice on this. The other thing we all talked about is how DOC should start to work with the alliance program roundtable and figure out a way to disseminate some of these design for safety products to the design community, owners and the public.

CHAIRMAN STAFFORD: It sounds like the motion is --

M O T I O N

MR. JONES: The motion is that DOC work with the roundtable to develop an outreach and dissemination plan for getting its design for safety fact sheets and other products to the design community, owners and the public.

Did you get that, Sarah?

MS. SHORTALL: OSHA recommends that DOC work with the alliance roundtable to develop an outreach and

dissemination plan for getting the roundtable fact sheets and other products to the design community, owners and the public.

MR. JONES: Correct.

CHAIRMAN STAFFORD: The motion has been made. Is there a second?

MR. BATYKEFER: Second.

CHAIRMAN STAFFORD: Any further discussion?

(No response.)

CHAIRMAN STAFFORD: All those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

CHAIRMAN STAFFORD: Great. Thank you.

MR. SHORTALL: Mr. Chair, at this point I'd like to enter into the record as Exhibit 13 the approved prevention through design work group report from the December 13 meeting.

As Exhibit 13A, What Does Prevention Through Design Mean to Construction, a PowerPoint presentation by Walter Jones, ACCSH member.

As 13B, OSHA's alliance program on construction roundtable prevention through design products and activities PowerPoint presented by Eric Lahaie.

As Exhibit 13C, the construction work place design solution for sky light or sky light guards developed by the alliance roundtable.

As Exhibit 13D, examples of OSHA construction standards that address design issues presented by Walter Jones, ACCSH member.

(Exhibit No. 13 was marked for identification.)

CHAIRMAN STAFFORD: Thank you, Sarah. Now we are at the point -- I misspoke earlier -- our agenda calls for a break at 1:45. We are ten minutes ahead of the schedule.

This is the pleasure of the committee. I would prefer to move on with our agenda. If you folks would like to break, but it looks like we are all in agreement that we should move on.

Next on the agenda is the update on the direct

final rule on head protection. I believe Paul Bolon with DOC is going to be doing that presentation. Is that right, Paul?

MR. BOLON: That's right.

UPDATE ON THE FINAL RULE ON HEAD PROTECTION

MR. BOLON: We are running so early that my two experts aren't here. It's a broad topic. I think I can present it all to you.

Ted Twardowski is a staffer that works in the Directorate of Standards and Guidance. He has been the main person that has been handling updating the consensus standard from OSHA.

This is Vernon Preston. He's staff in the Directorate of Construction who is working on this for Construction.

I think we e-mailed to everybody on ACCSH a couple of things about three weeks ago. Two of them were side by side documents that compared the ANSI standards for head protection. One of them compared the 1969 standard with 1997, and the other one compared the 2003 and 2009 standards.

The current standard in the construction

standard is 1926.100(b). That is on head protection. It requires compliance with Z89.1969 of ANSI. That is what we are going to propose to update with what we are presenting to you.

We are going to propose to issue a direct final rule which will update that ANSI standard for construction. It also updates the ANSI standard for all the rest of the industries as well.

We are proposing to issue a direct final rule and at the same time will be issuing an accompanying proposal, and the direct final rule will become a final rule if the Agency doesn't receive any significant adverse comment. If we do, we will withdraw that and issue the proposal and go through whatever rulemaking steps we have to, to take that proposal to final.

In 2007, the Agency issued a proposal to update the consensus standards on head protection for all the industries except for construction. They actually had an informal rulemaking.

At the hearing and comment period, there were a lot of comments that questioned why we had not included construction.

That proposal was issued as a final rule in 2009. In 2009, ANSI again updated its consensus standard for head protection.

The Agency has developed another direct final rule proposal to update the consensus standards for head protection to the ANSI 2009 standard, and this time we're including construction.

The way we're updating it in the construction standard is we're replacing the 1969 consensus standard, or this is what we are proposing to do, with either of three ANSI standards, the 1997, 2003 or the 2009, and we're doing that just because there will still be equipment out there for a number of years, and there is not a great deal of difference between the last three.

The ANSI standards, I don't know if you have looked into them, they looked at the standards for testing, for strength, flammability, color. They have classes now for ones that qualify for electrical protection.

If Ted Twardowski was here and you had questions about those fine details, he could answer

them. I don't think he's here.

That is pretty much it in a nutshell. We're proposing through a direct final rule to update our head protection standards for construction from the 1969 ANSI standard to the three most recent ones.

CHAIRMAN STAFFORD: Thank you, Paul. I think this may be your colleague.

MR. BOLON: This is Ted.

CHAIRMAN STAFFORD: Hello, Ted.

MR. BOLON: Do you have any questions?

CHAIRMAN STAFFORD: Chuck?

MR. STRIBLING: Is there any indication of when ANSI will undertake its next revision, the 2009?

MR. TWARDOWSKI: They usually update every five years.

CHAIRMAN STAFFORD: Any other questions or comments?

MS. SHORTALL: I have a couple of questions. Does ANSI require if standards are not updated on a five year cycle that they be withdrawn?

MR. TWARDOWSKI: They will usually just re-certify them.

MS. SHORTALL: Mr. Bolon, could you explain why the Agency decided using the direct final rule approach would be appropriate for this rulemaking?

MR. BOLON: We don't think it's a controversial rule. We don't anticipate receiving any adverse comment. We think by and large the industry is already complying through purchasing new equipment, all of which is produced under the 1997, 2003 or 2009 ANSI standards.

MR. STRIBLING: As a direct final rule as opposed to including it in an upcoming SIPS, I am sort of guessing you want to do it as a direct final rule because you can do it quicker that way?

MR. TWARDOWSKI: It will probably be faster doing it this way.

MR. BOLON: It is already drafted and Ted has included construction.

CHAIRMAN STAFFORD: Any other questions or comments? Steve?

MR. HAWKINS: Let's assume you chose the 2009 or 2012 version, would there be a grandfather period? How would that work as far as phasing that in for how

much --

MR. TWARDOWSKI: What we have done is taken the most current and the previous two, and as we update, the new one comes out in 2014, the intent was we will take the 2014, the 2009, and the one below that, and eliminate the one before that.

MR. HAWKINS: If this one passed now, we would go back to?

MR. TWARDOWSKI: 1997.

MR. HAWKINS: Move this up from 1969 to 1997?

MR. TWARDOWSKI: The life expectancy of PPE is about four years. We went through this when we had this rulemaking in general industry and maritime.

I would challenge you to go out and find something to a 1969 standard in the economy. You would probably have to hit every flea market up and down --

MR. HAWKINS: I understand now why we have all three versions and I didn't before.

CHAIRMAN STAFFORD: Any other questions or comments?

MS. SHORTALL: I have a comment. It's interesting that Mr. Twardowski would talk about flea

markets and that anyone would be able to find a 1969 head protection at a flea market. If Mr. Twardowski wants to do that on the weekends up in Pennsylvania and Massachusetts.

(Laughter.)

CHAIRMAN STAFFORD: Thank you, Sarah, for that comment. Any other questions or comments?

MR. BOLON: Just to clarify, we're presenting this to the full committee so we can listen to your advice and recommendation on updating the ANSI head protection standards.

CHAIRMAN STAFFORD: We can have that discussion, but it seems pretty straightforward, unless there is any other comments.

MR. RYAN: I move we accept this recommendation.

MR. CANNON: I have one question. Kevin Cannon, employer rep. This says OSHA is proposing to issue. Do you know when about?

MR. TWARDOWSKI: It's still going through solicitor review, OMB review. We have the Quality Administrative Procedures Act. There are certain time

lags built into that.

MR. BOLON: There is a little bit of clearance left in OSHA, departmental clearance, and then it goes to OMB.

CHAIRMAN STAFFORD: It sounds like the best course of action -- it looks like what we are looking for is a recommendation from the committee that OSHA proceed with the final rule. If someone could make a motion to that effect.

MS. SHORTALL: Would you like me to read your motion?

M O T I O N

MS. SHORTALL: Mr. Ryan moved that ACCSH recommend that OSHA proceed with the direct final rule, proposed rule, to revise OSHA's head protection standard for the construction industry.

MR. RYAN: That's exactly what I said.

(Laughter.)

CHAIRMAN STAFFORD: You're very articulate, Gerry. Second?

MR. HERING: Second.

CHAIRMAN STAFFORD: Any further discussion?

(No response.)

CHAIRMAN STAFFORD: The motion has been made and seconded. All those in favor, signify by saying aye.

(Chorus of ayes.)

CHAIRMAN STAFFORD: Opposed?

(No response.)

MS. SHORTALL: Mr. Chair, at this time I'd like to enter into the record as Exhibit 14 the presentation on the proposed rule, direct final rule, to revise OSHA's head protection standard for the construction industry.

(Exhibit No. 14 was marked for identification.)

CHAIRMAN STAFFORD: Thank you.

Do you want to work through this agenda and get done or do you want to take a break? Let's go ahead.

Our next work group report is going to be the health hazards and construction work group.

COMMITTEE MEMBER: We did that this morning.

CHAIRMAN STAFFORD: That's right. We're way ahead of schedule. Are we going to hear about sewage treatment plant failure? Is Mr. Ayub here? Is Mr. Ayub in the house?

We could have him for tomorrow, if you want to run through the whole agenda and we'll adjourn this thing today.

MR. HAWKINS: Second.

(Laughter.)

CHAIRMAN STAFFORD: Sarah, could you please rephrase Steve's motion?

While we are waiting, if anyone signed up for public comment, we would be glad to entertain that now while we have a few minutes. You going to sign up, Kevin?

(Laughter.)

(No response.)

(Pause.)

CHAIRMAN STAFFORD: We will get started again. Mohammad, welcome. Mr. Mohammad Ayub is going to give us a presentation on the sewage treatment plant failure in Gatlinburg, Tennessee. Please, the floor is yours.

PRESENTATION ON SEWAGE TREATMENT PLANT FAILURE

GATLINBURG, TENNESSEE

MR. AYUB: Good afternoon. We are going to present to you briefly the investigation that we have conducted on behalf of the Tennessee OSHA, to find out the cause of the collapse of this fairly large structure, about 164 feet long and about 60 feet wide and about 35 feet high.

One evening, when the sewage waste and storm water, they were in fact fairly high inside the basin, it could be as high as about 26 feet.

The East wall suddenly collapsed, and it fell over a room where there were two employees working. The wall that fell was 18 inches thick, 30/35 feet high. There was no chance the two employees who were in fact engaged in some wall reading or meter reading, they were trying to regulate the flow of the sewage and storm water for the treatment.

When this wall fell, there used to be a wall here, the wall fell flat on the ground, crushing a small room here.

Here is a picture of that basin. It had no

roof over it. These are the baffle walls. The idea of the baffle wall is that when the sewage and storm water gets into here, it should flow around the baffle wall, so the solid can settle down and the water could rise.

This was constructed about 1994. There was a consulting engineer and architect called Flint who designed it.

We could not get a hold of the Flint engineers because I think the owner passed away and the company is no longer in business.

We also tried to get a hold of the contractor who had built this structure, and we could not get a hold of the contractor as well.

After we completed our investigation -- when we conduct an investigation, we have two goals. First of all, we try to find out whether the structure was designed properly. If it was constructed as per the design, whether the design was okay or not.

Then we try to find out whether the construction was done as per the design. If there are flaws either in the design or if there are flaws in the construction, then we mention that in our report and

our conclusions indicate that.

The basic flaw was not in the design because we checked the design and the design was fine.

We found that -- when you see the red marks here, these are the joints between the baffle wall and the East wall. One joint here, one joint here, and one joint here.

There is a thing that is called "cold joint" in the concrete wall. Any time you have a water retaining structure, you don't want to have the cold joint. A cold joint is a joint when this wall and this wall is not cold at the same time.

If this wall is cold on Monday, then you come back later, on Thursday and pour, and then you have the cold joint here. The cold joint is not for the water retaining structure because water finds its way across the joint.

No matter what you do, no matter how tight you pour, water can get into the joints.

Because of the nature of the waste here, the water was fairly acidic and it corroded the rebars at this junction here.

Let me just go to some of the slides we have. This is an extract from the design that shows the foundation. It shows the 18 inch thick wall.

This is another drawing which indicates the foundation and the wall and the walkway at the top.

This is the East wall that had fallen and this is a baffle wall. As per the drawing, these walls should have been poured together. That means there should be rebar coming from the baffle wall going into the East wall on both sides, which we call "dowels," so the two walls can get interconnected.

Unfortunately, what had happened was the contractor chose not to use the dowel rebars, rebars coming from the baffle wall going into the East wall.

Instead of that, he used what is known as a "coupler." These couplers are fine. You can use couplers in place of the dowels. There is no problem there, except the issue was this had a cold joint.

This is the cross section of the baffle wall. Because this wall was not poured at the same time as the East wall, it had resulted in a very small section of the baffle wall due to the cold joint, and when you

have this sewage waste, all these walls got corroded.

If you can minutely see the coupler, how badly they are, they are all corroded. Throughout, if you can see, all these are couplers. Not only on one wall, here, here, and here.

We do not believe that this corrosion damage to the couplers happened in one month or two months. I believe it occurred in 20 years, 15 years.

This was an incident just waiting to happen. It just so happened that on that night when there were two employees in the room, this wall failed.

There was also something much more interesting that we found here. This is a picture of the East wall that fallen. These are the baffle walls, one, two and three. You can see the baffle wall here.

Even if all this connection had been lost here, here and here, why should the wall fail? The wall is 18 inches thick, heavily enforced. Why should it fail? It could sag a whole lot, it could sag six to eight inches, but why should it collapse without giving any kind of warning?

We found that if the connection at this

location and at the far location, if it was done properly, it would not have collapsed, even with the loss of these joints, even then, it would not have failed.

We examined the connection here, and we found that this connection, the contractor did not use the proper embedment of the rebar from this wall to this wall, from this wall to this wall.

If you want the rebar to take the tension, it needs to be embedded in the concrete.

If you only embed rebar about two inches, it's going to pull out. If you embed it 18 inches, it will take a whole lot more tension on it.

We found that the rebars were not embedded properly to the design and as per the Code.

Unfortunately, not only did we lose these joints, we also lost this joint here, and it had nowhere to go except to fall. It was amazing to see the entire wall, which is so long and so thick and so high, it just fell. It was a clear failure on the north side and the south side.

National OSHA is in fact authorized to extend

technical assistance to the state OSHA plans.

When we received the call from the Tennessee OSHA, we had agreed to go out there and we spent a couple of days there. We came back. They were very, very helpful to us in providing us all the drawings, all the interview statements, and all the design. We also had some of the concrete tested, and all the results were provided to us.

We were able to write a report, but unfortunately, the Tennessee OSHA was not able to issue any citations because as I said, the designer is gone, the contractor is gone.

We were also interested to know whether there are some other bases of the similar design, because we would like to caution the owners, look, there is a problem here.

Dr. Goodamah tried to contact the Association of Waste Water, and we tried to contact as many as we could, but we could not determine whether or not there are similar designs built by the same contractor because as I said earlier, the design was fine, but it was not constructed as per the design, and we had a

basic issue here.

We tried to find a combination of the same design and same contractor. We came to the conclusion that there may be somewhere, but we could not determine where.

We also wanted to write an alert on this issue, that any time there is a water retaining structure, all the walls should be poured together and there should be no cold joints.

We are trying to publish a paper in some of the sewage treatment magazines so that this problem could be highlighted.

I have a few more slides. This is the program we ran, it shows what happens with these baffle walls, where are the tensions. This is a summary on the East wall. This is a computer run, when you take out all the baffle walls.

Even when you take out the baffle walls, it should be okay. It should be fine. Unfortunately, the connections on the North and South walls was so deficient that it failed.

These are the conclusions we reached. Design

of the walls was found to be adequate. The cause of the failure was the deficiency in the concrete wall construction. The contractor used splicing couplers instead of dowels as required by the drawings.

By the way, even if he had used the coupler, if there was no cold joint, it would have been fine.

We found the cold joint facilitated leakage of the waste water across the joint, and corroded the rebar coupler over the years.

The couplers are not believed to have failed all at one time, but failed gradually, and the rebars and couplers were neither galvanized. If the couplers were galvanized, this incident would have happened five years later. It would have brought more life to it. It would not have failed completely.

Nowadays, any time we have a water retaining structure, all the rebars are epoxy coated. On bridge work, all the rebars are epoxy coated. They have a green color and that shows they have been epoxy coated. It was not here.

Because it was constructed in the early 1990s, perhaps epoxy coated rebar was not available. We also

checked the concrete strengths and the quality of the rebar, they were fine. There was no problem.

This is the short story of the failure of the waste water basin in Gatlinburg, and Gatlinburg is a beautiful place. That is a real good place to spend your Summer.

CHAIRMAN STAFFORD: Thank you very much, Mohammad.

MR. RYAN: Was it leaking on the corners, Mohammad?

MR. AYUB: I cannot tell. When I went there, the wall was already flat, and I went about two to three months after that, so I could not tell.

MR. RYAN: It might not have been because they might have coated the interior of that over the years a few times, too.

MR. AYUB: Yes.

MR. RYAN: How about the other wall, the opposite wall, was that constructed the same way? Do you know?

MR. AYUB: No. To the best of our knowledge, the West wall and baffle walls were all poured

together. There was no cold joint on the West side. Only on the East side.

MR. RYAN: I'm not an engineer but it's pretty much a common sense thing. I think they cut it short because they didn't have enough form work to do the whole thing.

MR. AYUB: Maybe the concrete supply was not there properly, they said we can only furnish you so many cubic yard of concrete.

CHAIRMAN STAFFORD: Any other questions or comments?

MR. GILLEN: I have a question. You said there were no citations because the designer was gone and the builder was gone. Had they been there, were there actual OSHA citations and what are they?

MR. AYUB: That's a very good question. There is case law that says the architects and structural engineers are not engaged in construction. However, a contractor is engaged in construction.

If you had gotten a hold of the contractor and if you can prove he did not follow the design and drawings which were provided to him, then he had placed

the lives of his employees in danger, and we would have done something.

MR. GILLEN: You said "case law." To me, I think that's like liability, but for OSHA. What would you have cited?

MR. AYUB: We would have cited them 5(a)(1), the concrete standards, which say all the rebar should have been placed properly.

There are a few standards in the concrete section which we would have cited.

MR. GILLEN: Sometimes I think one of the important sources of information that I don't think we ever tap that well is when there is a fatality investigation and a pretty thorough investigation of what's happened, what has occurred, yet there is no specific regulation to cite there was a hazard there.

That's useful information. We tend to think of our regulations -- we have so many of them, and that they cover every possible situation, but in reality, because over time they get outdated and things of that sort, there are gaps there.

It's useful when we have an investigation, if

it identifies a gap, to point that out.

I would love to hear more where there was a fatality, there was a problem, but there is not a regulation there or there is not a provision and there's a gap there, to put on the list of things to think about.

MR. AYUB: Here's a story. We are right now writing a report on a structure collapse in Long Island, New York. We have come to the conclusion without telling you the name of the contractor, architect or structural engineer, that it was a structural design flaw. That is what caused the accident.

Unfortunately, as I said earlier, there is case law that for OSHA to cite architects and to cite a structural engineer -- the case law says these guys are not engaged in construction.

I always wondered what else are they engaged in.

(Laughter.)

MR. AYUB: It is their design which is being used at the site. Their design is not to be framed on

the wall. It is being implemented. There are workers going on the top of the roof, below the roof, and if they are not engaged in construction, what else are they doing there.

There is a gap here. Perhaps one day, OSHA may like to appeal that case law. Even if we need to go to the high court, we should go.

MR. GILLEN: Can you identify what the case is, for some of us who are interested in prevention through design?

MR. AYUB: The case law? No, but I can find out.

MR. JONES: If you could forward it on to the committee, it would be helpful.

MR. AYUB: Sure. Out of all the construction collapses that we have investigated, 20 percent of them are caused by a structural design flaw. I wrote a paper on it.

MR. GILLEN: I have the paper.

MR. AYUB: There you go.

(Laughter.)

MR. AYUB: It is really amazing. It is a very

high number. There is no excuse. They just cannot keep doing this.

MR. JONES: Why do you think OSHA does not consider this a priority?

MR. AYUB: As Jim said, it is well above my pay scale.

(Laughter.)

CHAIRMAN STAFFORD: Tish?

MS. DAVIS: I just have two comments. I believe, and correct me if I'm wrong, that for all the fatality investigations, OSHA includes a variable on whether or not a standard has been violated. Isn't that correct? I don't know if it specifies whether or not the standard is related to the fatality, if there's a distinction.

Sometimes you can do an investigation, find something wrong, but it actually had nothing to do with that.

We look at that every year.

MR. AYUB: Our citations do not have to be tied in with the cause of the collapse because we decide if there is a violation of the standard,

collapse or no collapse.

MS. DAVIS: What is useful from a regulatory point of view is finding out if there was a standard that was pertinent to the incident itself.

MR. HAWKINS: In a case like this, there may be standards that are pertinent, but because there is no one to issue them to, they're not going to show up in IMIS. There is not going to be an entry in IMIS telling you what they might have been, had there been someone to issue them to.

MS. DAVIS: The question that I need clarification on is in manufacturing, all the time we have fatalities related to design flaws. We never cite the designers, we cite the employers. It happens all the time, all kinds of machinery.

With structural collapse, whoever owned this building, the public agency that owned this building --

MR. HAWKINS: Tish --

MS. DAVIS: I need some clarification. It's just different.

MR. HAWKINS: What this was, the City owned the facility. The City had hired an outside company.

Do you remember the name, Mr. Ayub? It was an outside company to operate the facility.

Immediately after the collapse, one of the things we did was we interviewed all the people at the site, and we couldn't find any evidence that there was any indication that a collapse was imminent or even could be suspected.

There was not leaking at those corners. There had been no pulling away. It wasn't the kind of thing where people said yeah, we have been seeing it sagging. There was none of that. It was sudden and completely unexpected.

As Mr. Ayub said, it was built in 1993 or 1994. The architect who designed it had passed away. The company had long been out of business that built it.

We had no way to issue a citation. One of the things we have to prove when we issue a citation is that the employer had knowledge or should have had knowledge.

Because these defects were hidden, Mr. Ayub will tell you that cold joint won't show up until the

wall is collapsed. You are really not going to be able to see that because there is a walkway built on top of it.

The circumstances as to why there was not a citation issued had to be with employer knowledge primarily. Had we interviewed those employees and they said oh, yeah, we have been seeing this, we have been asking our boss about it, we have been worried about this, and we found any shred of evidence like that, we would have issued a citation possibly to the City but certainly to the operator had we been able to document that knowledge. We were not able to.

Going beyond that, it would be very problematic for Tennessee or Federal OSHA to issue a citation to the designer or even to the constructor for something that had been hidden since 1994.

You could do it but rather you would prevail in front of the review commission would be --

MR. BARE: And the six months.

MR. HAWKINS: That's the other problem, you have that six month window. You could argue that perhaps the employer

-- the contractor's employees were exposed to the hazard when they were building it, but as Ben said, that was way more than six months ago. He probably wasn't there when the water entered it. His people were long gone. Really, they weren't exposed to the hazard.

I don't know if anybody else has any questions about the investigation.

MR. GILLEN: I'm not an engineer. To me, the designer designs something and then the constructor did something different, and it should be that somebody who is an engineer signs off that it's okay to do it that way, to depart from the design.

MR. HAWKINS: There would be, but the contractor either did one of two things. Either they didn't read the drawings correctly or they just made a decision this is just as good as doing it the way it's designed.

It's really funny. I'm just now starting to understand this. I worked for a geological engineering firm, a geotech firm, when I was in college. There is some animosity in the field between the builder and the

engineer and they both think the other one is stupid.

My daughter graduated with a civil engineering degree last year and has worked in the field some. She went out to the field on some towers they had designed, and she said they were just eating them up because one leg of this tower was in a sink hole that the topographic drawings didn't show, and that's one of the reasons you go on site and verify all this stuff. They had to go back and relocate.

Anybody that has been in this business very long knows that any business that has engineers and builders together, there is not a lot of love there.

The thing that is missing probably from this that may or may not have been in place, we didn't discover it, but a lot of times it is, a lot of times the owner will hire a third party to look out for their interest and they will do quality control inspections.

We weren't able to find that. The geotech firm that I worked for, one of the jobs that we had frequently, and we would use field tech's like I was at the time, to be quality control inspectors.

You are putting an engineer in the field, and

if the contractor brings in too large a rock or puts too large a rock in the field, you have to dig them up. We might run concrete tests. We might run slump tests on the concrete.

What we don't know is if there was a quality control entity working. We weren't able to find there was, on behalf of the owner. It was not as common in 1994. It's pretty common now because of a lot of the lawsuits and the bonding issues.

MR. RYAN: The owner of this property is the City of Gatlinburg.

MR. AYUB: To answer your question, generally speaking, on large projects, if a contractor wants to deviate from the details shown on the design plans, he cannot do it on his own. He has to get an approval from the structural engineer that look, I cannot follow your design, but I'm going to do this, is that fine or not.

The structural engineer will either have to approve or disapprove.

You are talking about 1994.

CHAIRMAN STAFFORD: Dan?

MR. ZARLETTI: Dan Zarletti, employer rep. When you said "by a structural engineer," don't you mean by "the structural engineer" of the drawings?

MR. AYUB: Exactly. In some real cases, if the structural engineer is not willing to approve it, then the contractor can in fact hire another structural engineer who will speak on his behalf to the structural engineer, and these two will have to have a meeting of the mind whether or not it can be approved.

On the other hand, if the structural engineer who had designed it, he has the last word.

MR. GILLEN: Is the report on the web? Is there a Quick Take? Is the report you did available?

MR. AYUB: It is on the OSHA intranet, only for OSHA.

MR. GILLEN: It's not public?

MR. HAWKINS: It's a public record, Matt.

CHAIRMAN STAFFORD: Thank you, Mr. Ayub. Any other questions or comments?

MR. HAWKINS: One other interesting factor to this whole thing is we were told early on that the engineers would be looking at this and they would issue

a report, we would get a copy of their report and we could look at the findings.

As it came down to that six month window, everybody got extremely quiet. Finally, somebody did admit the report would not be coming forth within the six month window, and it might be years before a report was actually issued.

Everybody quit talking. We had to issue subpoenas to talk to people. We would have been in a very difficult position had the Directorate of Construction and Region IV not helped us get Mr. Ayub to the site very quickly.

This committee has heard from him several times, but I'm not sure you all realize what a helpful gentleman this person really is, as a technical resource for OSHA everywhere, for the state OSHA, the Federal OSHA.

I just want to go on record having thanked Mr. Ayub for his work and the timeliness that he did this. He turned this around very, very quickly, and we were able to have real answers to give to the media when the six month time window came up, because people

wanted to know what happened.

If a family member -- I think this is something we forget that OSHA does. The families of these two men that were killed, at least they know the circumstances and what occurred.

Had I not been able to access Mr. Ayub and we would have gone to the six month window without this report, they might not have ever known what really happened that caused this accident.

I want to thank you publicly for your work.

(Applause.)

CHAIRMAN STAFFORD: Yes, thank you.

Ms. Shortall?

MS. SHORTALL: I would like to enter into the record at this point as Exhibit 15, Flow Equalization, Basin Wall Collapse at Waste Water Treatment Plant in Gatlinburg, Tennessee, a PowerPoint presented by Mohammad Ayub from Directorate of Construction.

(Exhibit No. 15 was marked for identification.)

CHAIRMAN STAFFORD: Thank you.

MR. GILLEN: It is really interesting. What OSHA does is so important, and a lot of times it is at that work site where the inspection is done in finding things, but in some respects, there is an impact they can have beyond that site, but that's only related if the word gets out.

I think Mr. Ayub's work is so important. It's sort of low likelihood but high impact. A lot of what his stories are about or investigations are about is really what we would think of as catastrophic things.

I would like to encourage OSHA, whether it's through a motion or something like that, to sort of try to develop some fatal facts or some articles, whether the engineering community or the safety and health community, about these investigations, to get the word out so it can have a broader impact.

What do people think of that?

MS. DAVIS: This is exactly what the NIOSH funded space program does. It investigates incidents. We bring in engineers. We use prevention through design people.

In fact, I think most of the times our reports

are so late that they don't influence the particular work site, but they influence the industry, the community.

We have been talking with OSHA. My feeling has been we only do ten deaths a year in Massachusetts, but there are all these other deaths, and there is all this expertise in OSHA, and people who know and think about these things, but they do their investigations, they issue their citations, and they go on.

That hasn't been their job. We have been talking about a collaborative effort, where when cases are closed at OSHA -- we don't frankly have the resources either, there is a resource issue here, but the concept is that those files and that information, when there is a real prevention message in a fatality that is new, especially when it's an emerging issue or something that hadn't been identified before, that if OSHA can't do it, there might be some partnering to translate the information into really broadly disseminated materials.

We put our reports in trade journals. We send them out to mailing databases.

There is some potential there, I think.

MR. BARE: We recognize that also. We have worked -- Mohammad has worked with engineering magazines and published our accident information. Within the last year, we had a very nice article about the work he had done, highlighting three or four of our accident investigations.

When we have the opportunity to share his accident investigations and these engineering reports, we certainly do that.

I don't know if you are talking about more of a process or a procedure to have that done, we could probably improve on that.

We recognize this as very important, sharing that information with the public, regardless of whether we issue citations or not.

CHAIRMAN STAFFORD: Thank you. We have gotten through our agenda generally for the day. If there is no one that signed up for public comment, and I don't believe there has been any new people, we will adjourn for the day and reconvene tomorrow morning at 8:00.

(Whereupon, at 2:40 p.m., the meeting was adjourned, to reconvene the following day, Friday, December 16, 2011, at 8:00 a.m.)

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