U.S. DEPARTMENT OF TRANSPORTATION
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PIPELINE AND HAZARDOUS MATERIALS
SAFETY ADMINISTRATION
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LIQUID PIPELINE ADVISORY COMMITTEE
TECHNICAL HAZARDOUS LIQUID PIPELINE
SAFETY STANDARDS COMMITTEE
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TUESDAY
DECEMBER 11, 2012

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The Advisory Committee met in the Edison Room at the Alexandria Westin, 400 Courthouse Square, Alexandria, Virginia, at 1:00 p.m., Lula M. Ford, Committee Chairperson, presiding.

PRESENT
LULA M. FORD, Committee Chairperson
JEFF WIESE, Associate Administrator for Pipeline Safety
LANNY W. ARMSTRONG, Fire Services Department, City of Pasadena
TODD DENTON, Phillips 66 Pipeline LLC

TIMOTHY C. FELT, Colonial Pipeline Company
RICHARD B. KUPREWICZ, Accufacts, Incorporated
CHARLES LESNIAK, III, Watershed Protection Department, City of Austin
CRAIG O. PIERSON, Marathon Pipe Line LLC
LARRY M. SHELTON, Sunoco Logistics

MASSOUD TAHAMTANI, Virginia State Corporation Commission
CARL M. WEIMER, Pipeline Safety Trust

ALSO PRESENT

LINDA DAUGHERTY

SAM HALL

BLAINE KEENER

MAX KIEBA

PAT LANDON

T-A-B-L-E O-F C-O-N-T-E-N-T-S

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

(1:03 p.m.)

MR. WIESE: Good afternoon. My name's Jeff Wiese. I'm Associate Administrator for Pipeline Safety at U.S. DOT's Pipeline and Hazardous Materials Safety Administration.

Welcome you to town. Not a bad time to get here. Sorry Chuck, we let you down. Chuck was praying for snow. And of course, we were aghast at the thought of snow in Washington.

If you've ever been here, trust me, it's not worth it. I just got a couple if informal remarks, if you'll allow me, and then I'll turn it over to our Committee Chair, Lula Ford.

Really, I just wanted to say today is a separate session of the Liquid Committee. We have a number of briefings set up for you. You'll be able to see it inside of your notebook, the agenda should be there.

We've asked a variety of our staff to come forward and just provide updates for you on a couple of things. This today is really a Committee meeting.

So I don't really see this as a public session for dialogue. But the Committee is at liberty to ask anything they want of anyone who's briefing them, myself or anyone. We're happy to do that.

Tomorrow, we'll have two votes. And at that time, we always provide an opportunity for the public to go on record. So that will be the opportunity for public comment tomorrow.

I won't say a couple of these things. I am pleased to be joined today by the Honorable Lula Ford, Illinois Commerce Commissioner.

Lula and I are friends, and she's been the person who keeps me straight in these meetings numerous times. So she's got a big job ahead of her. I'm pleased, in particular,

to have her because I think this maybe is the last time we have her.

CHAIRPERSON FORD: Correct.

MR. WIESE: We have a petition going ahead to have her reappointed in Illinois, but she's saying even if elected, she won't serve.

CHAIRPERSON FORD: No. It's ten years.

MR. WIESE: That's enough. I can sympathize with that, trust me. Tomorrow, the Honorable Collette Honorable will be here and will be chairing the joint session.

And on Thursday, I believe I'm asking Wayne Gardner to help us out to chair the separate Gas Committee. We're going to go around the table in a second, after I turn it over to Lula and have people just sort of introduce themselves, including our staff so the Committee all knows who you're talking with.

But I wanted to take a moment, if

you'll allow me, to just say a special hello to people. No, they can introduce themselves when they come on.

Start with Chuck Lesniak, City of Austin. We've asked Chuck to join us. I've known Chuck in a number of endeavors. And I think we started out in a TRB Committee many years ago.

Chuck is representing the National League of Cities, which is really important, I think to us to start drawing in the people we have to deal with and do business with.

The cities, we have another appointment pending for the National Association of County Officials, I'm not at liberty to say until it runs all the way through.

But our goal is to connect better with cities and counties, so I appreciate Chuck coming, let him say a few words in a second.

Tim Felt, another person I've

known for many years. Tim's President at Colonial Pipeline. Probably the role that I think of him most though is he's damage prevention champion. Always has been. Been on CGA, still on CGA.

He has to put up with Massoud and myself and other people on that committee. But thank you for joining us, Tim. Really appreciate that.

I would say Lanny, but he's been through this already. He's relatively new, but he's fit in quite well.

So I would also be remiss if I didn't, you know, just announce, I think most of you probably know by now. We mentioned it at the last meeting Denise Hamsher had resigned and she's moving on to do other work.

Larry David from Magellan, as well. And John Bresland who was in and out, but he was with Chemical Safety Board. He has left the Chemical Safety Board and gone into private practice.

I think he's working at Texas A&M now. And he's still active in the safety arena. And John's a great guy. I think we'll see more of him.

So anyway, I just wanted to make those quick little announcements. I already mentioned the bit about we'll do audience participation when it comes to votes.

And I would ask anybody in the public, if you're speaking, make sure your remarks are brief. And I ask in particular that you not stand up and repeat points that have already been made.

The Committee is comprised of pretty intelligent people. If they've heard the point already, there is no value served in just standing up and underscoring it.

So I would ask that you try to inform the committee with new information. It's important for everyone to understand that all of these meetings are recorded. There is a transcript that's made available.

I myself have been on the wrong end of that transcript from time to time, so I'll try to constrain what I say. We'll also put all the presentations that we get and give, we will put into our docket system at regulations.gov.

For those of you who track these sorts of things, and I'll give it to you later, the Docket number is PHMSA-2009-0203. It's easier to go to PHMSA's website for the advisory committee, frankly, if that's what you want. Or call one of us and we'll send it to you.

Last couple of points, comfort and safety. The most important thing for me particularly tomorrow as we get into voting time is there is a Starbucks downstairs somewhere, I'm told really close by.

That will be good for coffee, because as you know, government doesn't believe in treating even those who volunteer their time well. So I apologize for that, but

it is what it is.

The restrooms, as I recall from being here before, out this way. And they're very good. And I think you know by now that fire exits are probably out and down through these stairs. John will correct me, or Cam if there was different guidance, okay?

And with that, that's what I have. I will hand it over to Lula and she can call the meeting to order.

CHAIRPERSON FORD: Yes, thank you. Thank you, Jeff. Good morning, everyone. This is a meeting of the Liquid Pipeline Advisory Committee.

There is a quorum present, however we will not be considering or acting on any proposed rules. We'll be considering two at the joint meeting tomorrow.

The meeting is officially called to order. Before we begin, please turn off your cell phones. If you wish to speak, turn your tent card on its side.

State your name before you speak for the record. If you make a statement from the audience, please give a copy of your card to Cheryl or to the court reporter.

Our first item on the agenda today is leak detection. Oh, I'm sorry. I would like to have introductions from all of our members, starting on my right.

MR. ARMSTRONG: Lanny Armstrong, City of Pasadena, representing the public.

MR. TAHAMTANI: Massoud Tahamtani, Virginia State Corporation representing the state regulators.

MR. DENTON: Todd Denton, Phillips 66 Pipeline, representing industry.

MR. FELT: Tim Felt, Colonial Pipeline, representing industry.

MR. PIERSON: Craig Pierson, Marathon Pipeline, industry.

MR. SHELTON: Larry Shelton from Sunoco Logistics representing industry.

MR. KUPREWICZ: Rick Kuprewicz

representing the public.

MR. WEIMER: Carl Weimer with the Pipeline Safety Trust representing the public.

MR. LESNIAK: Doug Lesniak, City of Austin representing the public.

CHAIRPERSON FORD: Thank you. Now we'll go to our agenda item one, Leak Detection and Valve Studies. Max Kieba and Pat Landon.

MR. KIEBA: Thank you, Chairwoman Ford. Thank you, Jeff, thank you Committee. My name is Max Kieba. I'm with PHMSA's Pipeline Engineering and Research Division.

I will be specifically talking to you right now about the Kiefner and Associates A+ RTD, it might be pronounced Kai later for leak detection study.

Right after me will be Pat Landon talking about valves. This is the same presentation for both committees. I'll do my best to make sure it is focused on liquid today.

A quick outline of my presentation for leak detection study, I'll give you a little bit of a background drivers behind the study, talking about the Congressional mandates, some NTSB recommendations.

Talk about some other PHMSA initiatives we did this year, which were very valuable in forming some discussion of what's happening.

A little bit of the scope of the study that the contractors did. A summary of comments we received on a draft report and some changes that had been made in a draft report.

And also some observations, general observations from the study. I think most people know who Kiefner and Associates are, but I just want to point out who the specific team members were from Kiefner and Associates, or subcontractors.

David Shaw was the lead author of this report. A significant amount of

experience, 30 plus years. Engineering, automation systems, simulation modeling.

Martin Phillips was the overall project manager from Kiefner. And also other co-authors and team members Ron Baker and Christine Mayernik, particularly might be familiar, some people, from the Baker study. But they helped a lot with our incident review.

And then also some other team members. So a little bit of a background of how this study was formed.

The Congressional mandate, specifically Section 8, and this is specifically Section 8A, talked about those two items, particularly analysis of technical limitations, the ability of system to detect ruptures, small leaks, et cetera.

And also analysis of the practicality of establishing, and that's where Kiefner specifically looked at technical elements, operational elements, economic

feasibility elements.

The two parts of both of those that I highlighted and bolded, that was primarily what Kiefner looked at from a technical side.

To an extent, they looked at those other areas. But we got a number of comments, and pretty much agreed that the contractor shouldn't be looking at all those aspects. That needs to be done in the greater scope of some of these discussions, which I think we have done so far this year with some of these other workshops we've had.

To an extent, though, in the report they did go into those areas, but just not explicitly enough to go as far as perhaps some people would have liked them to.

And we also had, and this is more on the gas side, but NTSB recommendation P-11-10 talked about leak pinpointing for natural gas transmission and distribution, that also on the gas side.

I will also say why it wasn't explicitly mentioned in the report. Potentially relevant was a new one that came out this year was P-12-7.

And that talked about team training in a control room, which I would say is certainly relevant to some of the work that's going on in this study. And that one is a particularly liquid focus, but talks about control rooms in general.

So let's step back, look at some of the other things we've done this year. In March 27, 2012, we had the workshop improving pipeline leak detection system effectiveness.

And this was really designed to provide an open forum amongst all stakeholders to exchange information about capabilities of and understandably some challenges associated with LDS, leak detection systems.

If anyone's interested, the summary report is out there. A lot of the information obtained through the workshop was

used to develop the scope of the study.

And actually, at about the same time as that workshop, we had an advisory notice that went out and some public comments asking people for input on the scope of the study.

Then, in the middle of July, July 18th, 19th, we had our Government Industry Pipeline R&D forum. We had a number of working groups.

One of them was specifically focused on leak detection. Among the gaps identified by that working group, again, multiple stakeholders were involved.

Things like reducing false alarms, leak detection system improvements needed in general for new and existing systems for both segments.

And the last one they pointed out was what was considered smart system development. But that was almost like a form of a, almost like a health check of sorts

where you can put some sensors on the line that notify someone that hey, by the way, you might want to come and check on it.

So the contractor personnel were also present at that workshop. They also, at the time, provided a status of the study, and also got input from some folks from the study, as well. And again, the summary report is out there.

And just recently, which is now closed, we had an R&D solicitation. And these are listed up here are some of the gaps we ended up with.

And again, they kind of carried over from our R&D forum. Among those, we do see alarms of leak detection systems, in general. We're talking about false alarms, but I would say trying to reduce any alarm flood.

And just some of the others again, rolled in from our R&D forum. The solicitation is now closed. White papers are

currently being reviewed.

I will say, on order of, I want to say over 90 white papers we got, and well over about 20 of those were leak detection related. So good amount of proposals came in, which we're currently reviewing.

And I want to step back a little bit and just put LDS a little bit into context, because I will say so many people are focused so much on technology, and they want the answer of what technology can do.

But I want to try to convey that leak detection systems, in general, are considered to include technology people, operating environment, process and procedures. Right?

And certainly when you add the people element to it, it gets more complex. But at the same time, it can be designed properly, can be done properly of process and procedures.

So in general, you know, in the

perspective of the study, they did take that into consideration with leak detection study.

I also want to point out, as many folks know, there are multiple layers of defense in pipeline systems in general. Certainly with LDS specifically.

Naturally, these are intended to prevent incidents from occurring and reduce the impact. But among others, people might be familiar with the reason Swiss cheese model, right?

As multiple things can happen and if everything's lined up, then you have the more significant incident.

And among others, with this whole multiple layers of defense, I think it was Dr. Rosekind said in a recent hearing that focusing too much on the discreet elements within a system without taking in context of the overall system can be problematic.

So trying to do both is kind of where you generally want to go. And in

general, that's kind of again where the study looked at, as well.

So a little bit about the scope of the study. Among others, they reviewed pipeline incidents that had leak detection aspects. The contractors chose to go between January 1, 2010 and July 7, 2012.

They looked at technical feasibility, and reviewing of installed and currently available technologies. They looked at some operational feasibility aspects, economics, cost benefit analysis, which many people obviously have differing opinions of what that means.

But at least they presented some scenarios. And also they did a standards review, a study of existing LDS standards. They also, as part of their study, they did interview with operators and technology suppliers.

Understanding it was a pretty limited time period when they did this study,

so they did X amount of operators and technology suppliers.

They certainly didn't interview all of them. But from their perspective, was a fair amount, a good representative sample.

So they had a draft report, not explicitly on here, but we had a webinar October 5th that we put out there. It was a publicly webcasted webinar.

We had comments through October 26th. So we had comments that were received via the website or email from nine commenters. Many had multiple comments.

Total from all the comments received, we got about over 100 individual comments that were pretty much deemed technical in nature, directly related to the report and appropriate for some kind of response.

Now many of these were similar to one another. So these next slides I'll go over are just a summary of some of those

comments and what resulted in a change.

And this link will be provided at the end of this presentation, but all the comments received by the comment deadline are available in their entirety on the following website.

So again, what I'm presenting you is just a summary of those. But you can certainly go on our public website to see them verbatim.

So among the comments we got in, among those just recommendations to, and I will say this is a lost track, but it's a good 278 page report total.

So there are just recommendations to bring up some observations up into the executive summary, understanding that's probably as far as many people will get. So the contractors did agree, and they put that summary table in there.

A number of comments raised issue with some statements that were made, such as

many leak detection regulations in 49 CFR 195 apply equally well to gas.

There were a lot of concerns with that statement just by itself. So the contractors did agree, and they've moved the specific statements.

Now elsewhere in the report, they did leave some language in that talked about some common elements that involve CPM, SCADA, metering, et cetera, understanding there are obviously differences between gas and liquid, devil in the details, those sort of things.

There was also suggestions to modify what was considered absolute language such as immediate detection and changes things like quickly. Things like refined products are liquids inside and remain, change that to usually.

And other fact statements that are really more opinion statements from the contractors. And they agreed and they made those modifications.

There were some disagreement or errors found on some of the data provided on some of the case studies. I pointed to a couple.

But in general, where it was pretty clear there were data errors from what was actually submitted, those were changed in the report.

In some cases, for instance, there might be changes made in the supplemental report that occurred after the reporting period. That was not changed because they were pretty clear on we went with this time period.

And overall, they made clarifications that any review they did on the incidents were based on data that was submitted.

So they couldn't go into a greater detail on, you know, confirming some of that data was actually accurate or what really happened, those kind of things. They just

couldn't go to that level.

Just some comments on missing references from bibliographies, things like that. Perhaps relevant to this committee, it's not specifically on that table, but a couple folks pointed out API 1155 that was mentioned in the study was withdrawn.

And now relevant sections are included in 1130, which that was fixed, as well. This next one is more gas focused, so I won't address too much with this committee.

But particularly when you get into distribution systems, particularly something that's not clearly on SCADA, and we're talking just someone, you know, monitoring flow gauges, things like that, are calling it in.

It isn't addressed in detail on a report, and they acknowledge that and they took it out. Or they at least acknowledged what was and wasn't covered in the report.

So general observations from their study. From the incident review portion based

on, again, these are based on reports submitted, based on the actual data from that time period.

If you go to the report, exact percentages differ slightly. But in general, for all types, emergency responder, member of the public was more likely, and among all those categories, the most likely to identify a release. And they are air patrols, operator, ground crew and contractors.

The next down is air patrol, operator ground crew and contractors were more likely to identify a release than a pipeline controller control room.

And finally, the pipeline controller control room was the least likely to detect and identify the release. And again, that's just straight from data.

Among the other observations, recommended best practices for leak detection for gas pipelines are a bit lacking, as are best practices for external, sensor based leak

detection in general.

That applied to both liquid and gas. That was an observation made by the study. Unlike most other subsystem use on pipeline, LDS does not have a nameplate or rate of performance measures per se.

Particularly true of CPM where you have computer software program configurations, et cetera. Obviously you have vendors and manufacturers that maybe provide some information on their system.

But they all can contribute in unpredictable ways to performance. And I will say this, this element came up, too, in our R&D forum saying it would be helpful to have some kind of system in place to confirm what kind of performance metrics are in place for different systems.

In their opinion, there is no technical reason why several different leak detection methods cannot be implemented at the same time.

In fact, a basic engineer robustness test will call for at least two methods that rely on different physical principles. And again, in their opinion, that's at least two.

Now there are other standards they did where there's some regulations and standards out there that go even many more than two. But at least two is what they observed.

And the idea there is if an incident happens, ideally you want both methods. Say okay something happened, there was indeed a leak. Okay, you have some verification there.

Now certainly, if there's a leak that happens where perhaps one method sees and another method doesn't, then you need some kind of decision algorithm in place to help confirm that.

Many performance measures presented conflicting objectives. And this

gets into the whole notion of sensitivity levels and prone to generating false alarms. So there is certainly an issue there.

When you play too much with sensitivity, you can create false alarms. At the same time, right, false alarms, it goes into your alarm methodology and your alarm philosophy.

So somehow you want to figure out what to do with false alarms. And again, that was very consistent, I would say, with what came out of R&D forum.

The general concept was is there a way we can reduce false alarms in general so that when the controller gets an alarm, is there a way they can not second guess things at all?

But is there a way that you can confirm when they get an alarm, that it's definitely determined to be a critical alarm, and they know it's something they need to act on?

A little bit about cost element, but objectively the largest cost element in our opinion is the investment in personnel who understand manage plan, et cetera, leak detection.

So it's not good enough just to have a very sophisticated system if you don't have the people that are properly trained on it. So certainly those people are important. They require some expertise that know the system, know the technologies.

Most recommended practice for internal LDS in their opinion contained principles that are valuable for external. Again, equivalent standards for external systems, in their opinion, would be very useful for the industry.

And certain standards and regulations, they reviewed and expanded several useful ways, including setting some measurable performance standards for leak detection.

And once again, the draft final report and comments received are available out there on the website. With that, is it acceptable if we entertain questions for leaks specifically? Any questions?

CHAIRPERSON FORD: Yes, questions for our presenter? Massoud?

MR. TAHAMTANI: So Max, what's the next step?

MR. KIEBA: Okay, well certainly the next step for the Congressional mandate is we have to report to Congress. According to the mandate is no sooner than January 3rd.

Now, the NTSB recommendation, usually there goes some additional correspondence with them to address, to give them an update of what we're doing with our recommendations and have a dialogue of where we're going with those.

MR. TAHAMTANI: Thank you.

MR. KIEBA: And for those that aren't familiar with all the Act language,

there is an AB specific portion that talks about rulemaking considerations.

But we're really not even allowed to touch that until Congress gets the report. They have a chance to review things like that.

So at least for leak detection specifically, if you look at AB, that talks a little bit more about the time periods involved with that.

CHAIRPERSON FORD: Jeff?

MR. WIESE: Commissioner, allow me just to expand for a second to say that what we're presenting to you today I think Max has made clear are the findings from the contract and the contractor.

The Administration will have to file a report, which will basically be a cover letter, their sort of take on it. And you know, I honestly couldn't sit here and tell you what that letter's going to say.

It could be anything from just here is, you know, the contractor's report on

it. And as Max said, sort of wait for any implications for later.

Or you know, it could be an endorsement or, anyway, just say that the Administration has discretion to review it and make a decision on that. So we're not in a good spot to give you a good answer on that.

CHAIRPERSON FORD: Mr. Lesniak? Mr. Denton, did you take your card down? Okay. Mr. Lesniak?

MR. LESNIAK: I just wanted to make sure I was clear about one of your slides. One of the slides about identifying a leak and the effectiveness of identifying a leak.

Is what that slide was saying was that the most effective in identifying leaks or finding leaks was emergency first responders and the public, then the pipeline company --

MR. KIEBA: Oh, yes. The very first slide. Sorry, Cameron, that would be

slide --

MR. LESNIAK: And then the control room operator?

MR. KIEBA: Yes. So they went, basically again, it was as was reported. Let me get back to it, one second. Based on the data reported, and you know, when our incident reports, things like that, it says how was it identified by who?

And in the large percentage of cases, I'm sorry. I went right past it, didn't I? Make sure we get to the right slide that we're talking about.

MR. LESNIAK: That's basically what it said.

MR. KIEBA: Yes. So --

MR. LESNIAK: And so I just wanted to make sure that I wasn't hearing that inversely because I was surprised, given the enormous investment that the industry has put in into leak detection, that to me that says the systems don't work, or don't work very

well.

MR. WIESE: I wonder if I might add some perspective, with your permission.

CHAIRPERSON FORD: Sure, yes.

MR. WIESE: The vast majority, or my assumption and reacting the same way, the vast majority of leaks that are reported to us are small leaks.

They're probably well under the threshold of any control room sort of detection. That's a technology limitation.

Those small leaks, I think the industry and the government have recognized for years the value of the public being aware because small leaks tend to be picked up more by third parties or, you know, by patrols.

So I think if you look at a statistical analysis, you would see the vast majority of leaks are going to fall below that threshold.

Now the control room is obviously very useful when you have a large guillotine

break or very large release. And that's my assumption for why that comes out that way. I think it's less about they're effective then how sensitive they can be.

MR. KIEBA: And certainly, it goes back to, again, what is an LDS? And that involves technology people and the environment, things like that.

CHAIRPERSON FORD: Mr. Kuprewicz?

MR. KUPREWICZ: Yes, it looks like you had a lot of work done in a very pressed time. And I would like to see the final. I didn't hear, when's the final report? Has it been released yet, or is it coming out before Congress?

MR. KIEBA: Jeff, you want to answer that one on the release of the final report?

MR. WIESE: I think the draft final's out there now. You can look at it. Honestly, I mean, I have sort of the same question Massoud has.

The administration is going to have to, and I'm not just making that up, it hasn't gotten through them for review. So we thought it was important to come before you because you're here.

And just try to make sure you're current with where we are now. But we haven't even put anything into concurrence for the administration to do it.

Hopefully we'll submit something to the Hill, you know, since they only gave us something, like, how many was it? Thirty eight mandates? You know, we might be a month late or something.

MALE PARTICIPANT: I see you got one of them.

MR. WIESE: Yes, I want to check that off the list as soon as we can.

CHAIRPERSON FORD: Mr. Denton?

MR. DENTON: I appreciate the slide on the leak detection systems in context because that's a good point that it's more

than technology. It is people.

And I think that's something that industry's recognizing, that to the point of who's detecting these links? Obviously want to detect and stop any leak. But our first focus is obviously on large leaks, ruptures, that kind of thing.

The report seems fairly academic. I think we would have liked to seen a little more practical information as far as detecting some of those smaller leaks and how we can move forward with that.

But I did have a question for you on the very last point on your last slide. Could you expand on that, on the standards and regulations?

MR. KIEBA: Sorry, observations?

MR. DENTON: Yes.

MR. KIEBA: This one they looked, I can say, and it isn't again in a draft report even, but they looked at CSA. They also looked at German, I want to say it's

called TRFL.

And then the Germans, they actually have, if I'm not mistaken, up to five or six different methods or methodologies that are used for a number of different scenarios. Right?

They have a different methodology for start up, shut downs, things like that. They have other methodologies for this. They use upwards of six.

In the contractor's opinion, CSA has some more of those measurable performance standards, it's at 662, it's in there. So that, again, it's all based on the report.

But when they talk about standards and regulations, that's kind of where they're going with is either CSA has some stuff and then also TRFL has others.

CHAIRPERSON FORD: Are there any other questions for Mr. Kieba? Mr. Landon?

MR. KIEBA: Thank you, Chairman.

CHAIRPERSON FORD: Thank you.

MR. LANDON: Okay, good afternoon. I would like to thank the Liquid Pipeline Advisory Committee for allowing time for a briefing on the Oak Ridge National Laboratory Study for the requirements of automatic remotely controlled shutoff and hazardous liquid natural gas pipelines with respect to this, public and environment.

It is quite a mouthful. I asked for a longer title. In March 2012, PHMSA contracted Oak Ridge National Laboratory, or ORNL, to conduct the automatic shutdown and remote control valve study that assessed the effectiveness of blocked valve closures, swiftness in mitigating the consequence of natural and hazardous liquid transmission pipeline releases on the public and environment.

ORNL's study evaluates the technical, operational and economic feasibility and potential cost benefits of installing ASVs and RCVs in newly constructed

and fully replaced transmission pipelines.

Who is Oak Ridge National Laboratory? ORNL was established in 1943 as an integral part of the Manhattan Project. Today, ORNL is Department of Energy's largest science and energy based laboratory who's managed by a Limited Liability Partnership between the University of Tennessee and Battelle Memorial Institute, known as UT Battelle.

Currently, it is staffed with 4,400 people. Within that staff, there are 1,600 scientists and engineers. It has an annual budget of $1.65 billion and home to several of the worlds top super computers.

ORNL operates nine user facilities that draw thousands of research scientists and visitors each year to conduct research in the following areas, building technology research in the integration center, nanophase material sciences, structural molecular biology, flux isotope reactor, temperature material

laboratory, spallation neutron sources.

And the two that were essential to this study, National Center for Computational Science and the National Transportation Research Center.

Background to ORNL's study. The Congressional Mandate from the Pipeline Safety Act, Regulatory Certainty and Job Creation Act of 2001, Section 4 requires that Department of Transportation required by regulation, the use of automatic or remotely controlled shutoff valves, or equivalent technology where it is economically, technically, operationally feasible on hazardous liquid and natural gas transmission pipelines, newly constructed or completely replaced.

Additionally, the act mandates the government accountability office to conduct a study on the ability of transmission pipeline facility operators to respond to releases within HCAs.

The GAO must consider the

swiftness of leak detection, pipeline shutdown capabilities, the location of the nearest personnel for response, as well as cost, risk and benefits of installing ASVs and RCVs.

NTSB and its accident report from the San Bruno accident made recommendation P-11-11, and that PHMSA amend Title 49 CFR 192.935C to directly require that automatic shutdown valves and remote control valves be installed in high consequence areas, as well as Class 3 and Class 4 locations and spaced at intervals that consider population factors listed in the regulations.

On March 28, 2012, the workshop, understanding the application of automatic control and remote control valves was conducted to discuss the practical considerations involved with spacing, operating, maintaining automatic and remote control valves by the public, federal and state regulatory agencies, and transmission line operators.

In this workshop, identified constraints with the pull on these types of systems on existing versus newly constructed pipelines, and to collect input that would help guide the Oak Ridge study.

Presentations, transcripts of the workshop, and a summary report can be found on the website. The scope of the Oak Ridge study was published to the Federal Register for comments, and these comments were used as well by Oak Ridge to generate their study.

July 18th and 19th, 2012, the Government Industry Pipeline Research and Development forum was held. The working group that worked on the automatic shutdown valve determined that there was a potential technology gap in the reliability of operation.

Project is sought to study a more accurate line break detection system to minimize unintended valve closures. The R&D forum report out can be found on the website,

as well as the announcements.

Solicitation is closed at this point. And as Max has indicated, white papers are being reviewed. On October 5th, 2012, Oak Ridge presented in a webinar their draft for the study.

Comments were received from October 5th to October 26th. There were seven commenters that submitted in the posted time for comments.

Oak Ridge determined that there were 42 technical comments, some of which changed their study. Some of these comments will be discussed in the next slide. And you can see the draft report, as well as the comments on the website.

Okay, so changes that Oak Ridge made to the study based on the comments. First was inadvertent valve closure was not addressed in the Oak Ridge study. Oak Ridge added a section to discuss these consequences.

Hazardous liquid case studies

seven and eight, numbers are inaccurate, as well as the 90 minute shutdown for case study AA was not a realistic number.

Oak Ridge went back and readjusted their models to Section 194.105 to worst case discharge methodology, as well as 105(b)(1) for estimating release volume.

Use of the word leak should be changed to rupture where the high rate of mass release associated with pipeline failure are appropriate. Oak Ridge clarified this in their newest revision.

Use of the word detect should expand beyond CPM and SCADA detection as Max has discussed in his previous presentation. So Oak Ridge, to address this, had also changed it within their report.

Flow rate on hazardous liquid lines can exceed normal pipeline flow immediately following a rupture. As well, Oak Ridge addressed this, and put it within their analytical approach on the computational

models.

And then the final one that we'll discuss today is the proposed hazard zone models is based on extremely conservative and inappropriate approach to pipeline outflow estimates, and a fire radiation model that ignores significant sources of conservatism inherent to using a point source radiation model.

Oak Ridge responded within the report, as well as I'll read the gist of what their adjustment was. The models used in the Oak Ridge study to estimate pipeline outflow and fire radiation for natural gas pipeline releases were developed as tools for identifying differences in release scenarios, and for quantifying the effectiveness of blocked valve closure, swiftness in mitigating fire damage.

Simplifying assumptions and limitations of the models used to estimate the time dependent pipeline outflow and thermal

radiant tensity resulting from the fire produced by combustion of the release of natural gas are now discussed in the study, or have been.

These models are not intended to be exact solution to these complex engineering problems.

Okay, moving on to the actual study itself. Oak Ridge categorized the potential effects of unintended releases from natural gas and hazardous liquid pipelines on public environmental safety as personal injuries and fatalities, property damage, and environmental impacts.

The scope and the magnitude of these effects depend on the type and the amount of product released, the exact sequence of events, and site specific factors such as the separation and distance between an individual or building in the release point.

Building type and construction, terrain features and atmospheric conditions.

Oak Ridge study assessed the effectiveness of blocked valve closure swiftness in mitigating the consequences of natural gas and hazardous liquid pipeline releases on the public and environmental safety.

Rather, blocked valve closure was evaluated on natural gas transmission lines with an ignition of product, hazardous liquid transmission lines with an the ignition of product, and hazardous liquid transmission lines without an ignition of the product.

The technical, operational and economic feasibility and potential cost benefits of ASVs and RCVs in newly constructed and fully replaced transmission lines was evaluated with the following.

Fire modeling was used to establish metrics for analyzing response time for transmission lines with ignition, and the basic oil spill cost estimation model used by the EPA was used to model oil spills for hazardous liquid transmission lines without

ignition.

The scope of Oak Ridge study was limited to only consider worst case pipeline releases and HDAs involving guillotine breaks rather than more common breaks such as punctures and through wall cracks.

Although ignition of the release product falling to rupture is not insured, Oak Ridge's study modeled release scenarios for natural gas and hazardous liquid transmission lines, and the result in the immediate ignition of the release product at the break location.

Hypothetical pipeline release studies show that ASVs and RCVs installed on newly constructed and fully replaced gas pipelines and liquid pipelines are technically, operationally and economically feasible, and provide a positive cost benefit.

However, blocked valve closure has no effect on preventing pipeline failure or stopping product that remains inside the

isolated pipeline segment from escaping to the environment.

Decreasing the total volume of the released product reduces the overall impact on public and environmental safety. Installing ASVs and RCVs can potentially be an effective strategy to mitigate consequences of an unintended pipe release.

Blocked valve closure swiftness is most effective in mitigating damage resulting from a pipeline release, and subsequent fire when damaged pipeline segment is isolated and thermal radiation produced by the fire declines in time to enable emergency response to safely start firefighting activities immediately upon arrival.

If the damaged pipeline segment is not isolated within 20 minutes after the break, firefighting activities may evolve from controlling fire damage to preventing fire spread.

Positive effects of rapid blocked

valve closure are only realized through combined efforts of pipeline operators and emergency responders.

Similarly, the avoided cost of socioeconomic and environmental damage for hazardous liquid pipeline releases without ignition increases as time require to isolate the damaged pipeline segment decreases.

The modeling is dependent on a case by case analysis of each pipeline system due to the complexity of location, response capabilities, pipeline configuration, and resources.

Summarize. To summarize the briefing, the Oak Ridge study was commissioned in March 2012 by PHMSA to address Congressional mandates, recommendations from the NTSB, input from valve workshop and R&D forum.

Transparency was maintained during the development of the scope of the study through public comment, and the final draft

was presented in a webinar and comments were used by Oak Ridge to develop their final study.

Oak Ridge's study indicates that ASVs and RCVs installed on newly constructed or fully replaced transmission pipelines are operationally, technically, and economically feasible and provide a positive cost benefit on a case by case method. Thank you, and now take questions.

CHAIRPERSON FORD: Thank you. Questions for Mr. Landon? I would just like to comment that last year, Jeff sent our Director Quarterman into the Illinois Commerce Commission along with our Congressman, Bobby Rush, and presented to us.

So that was very beneficial for our great State of Illinois. And thank you, again, Jeff for that. I see Mr. Larry?

MR. SHELTON: Mr. Shelton, yes. Thank you. And maybe you said this and I just missed it. But first of all, I appreciate the

consideration of the comments that we submitted during the comment period, and the changes that are being made to the report.

But when do we see those changes, or are they out there?

MR. LANDON: They haven't been released. And as Jeff has indicated, we'll be reporting to Congress with this report first.

MR. SHELTON: Okay, so we won't have an opportunity to review the changes that were made as a result of our comments? Is that correct?

MR. WIESE: No, there's not a second round of comments. But you know, it's a contractual report, as I keep saying. It's the contractor's views at this point.

The implications of what they say in the study, the Administration would have to study and decide how they want to own it. But if there was a real implication, it would have to go through rulemaking. Right?

So this committee would be heavily

involved in any sort of implications. But I don't think it was our intent to go through rounds of comments on that.

MR. SHELTON: Okay, thanks.

CHAIRPERSON FORD: Mr. Armstrong?

MR. ARMSTRONG: Yes, Lanny Armstrong representing the public. One question regarding the two year new installation and/or replacement of an entire line.

Was there any analysis done on pipelines existing prior to that two year limit?

MR. LANDON: Yes. Oak Ridge also addressed the recommendation on the gas side, but you could take their model and apply it to the liquid, as well.

CHAIRPERSON FORD: Mr. Weimer?

MR. WEIMER: Just hoping for some added clarity to Mr. Shelton's question. So you gave a link there that had the draft final report. But that draft final report isn't --

MR. LANDON: It's not the final report.

MR. WEIMER: It isn't the final report. And so is the final report not going to be posted until it goes to Congress?

MR. LANDON: Correct.

CHAIRPERSON FORD: Mr. Lesniak? And then Jeff.

MR. LESNIAK: And just to follow on that, so the draft final that's out now, it does not have the modifications based on the comments included in it?

MR. LANDON: No.

MR. LESNIAK: Okay.

MR. WIESE: The only thing I wanted to add on that one, but really more to Lanny's question was there was a strange Congressional mandate, if people will remember.

They gave us the assignment to look at new and major rehabilitated projects. And then they really went back and asked the

Government Accountability Office, formerly the Government Accounting Office I think it was, I can never get their name right, GAO, to look at that.

And GAO, but in a weird way, they're looking at response times as much. So we didn't have a mandate. I hope that it's not confusing.

What we're trying to do today is to move forward with closing out mandates which were just to conduct a study and send it to the Hill.

There are no immediate implications on this. Those would certainly be factored into any future rulemakings. But the GAO, I know, is hoping to wrap up their work by the end of the year.

I'm pretty sure they won't put that out for public comment. You know, in fact I think we can bet on that. But we will see findings in advance.

I wouldn't be at liberty to

discuss them, but I think they'll be sort of answering your question in their study, and hopefully around the same time as we submit ours up to the hill.

CHAIRPERSON FORD: Thank you. Any other questions for Mr. Landon. Thank you, Mr. Landon.

MR. LANDON: Thank you.

CHAIRPERSON FORD: We will now go to Agenda item 2, Cover Over Buried Pipelines. Blaine Keener?

MR. KEENER: Good afternoon, everybody. My name's Blaine Keener. I'm the National Field Coordinator for the Office of Pipeline Safety within PHMSA.

And I have a brief presentation on another mandate from the 2011 Act, Cover Over Buried Pipelines. There's a lot more specific and longer title to it that we'll get to on the first slide.

See if it does it. To the right? There we go. Section 28 of the 2011 Act

requires a study of hazardous liquid incidents at inland bodies of water with a width more than 100 feet from high water mark to high water mark.

And the goal of the study is to determine if the depth of cover over the pipeline was a factor in any accidental release of hazardous liquids.

So that's sort of a multi prong mandate. That's the first prong with the report on the results of that study was due a year after enactment, which is coming up very soon.

The second prong is that if the report finds that depth of coverage is a contributing factor in accidental release, the next phase then is for PHMSA to review our requirements for depth of cover.

And then within one year of the report on the results of the study, we have to determine if depth of cover requirements in our regulations are sufficient.

So this is the first prong to do the study and provide the results to Congress. The second prong, then, would be to evaluate our regulatory requirements related to depth of cover to determine if they're sufficient.

One of the things we did in the study was we tried to quantify what's out there. We found 2,841 locations where hazardous liquid pipelines cross inland bodies of water.

And most of those, the body of water was greater than or equal to 100 feet. We grappled for a while with the high water mark to high water mark concept.

And I believe that's in the mandate because it's present in our regulations for burial depth. Part of the hazardous liquid regs dealing with burial depths say that it has to be 48 inches deep if it's crossing a water body that's more than 100 feet from high water mark to high water mark.

Unfortunately, we could not find any GIS data sets that gave us that high water mark data. So we proceeded with the study for all inland water crossings regardless of width.

We found 20 hazardous liquids accidents that occurred at inland water crossings between '91 and 2012. We decided we would just go ahead and do 20 years' worth.

The conclusion was that the depletion of cover, sometimes in the waterway and other times in new channels cut by flood waters was a factor in 16 accidents.

And also from reading the narratives on those reports, the dynamic and unique nature of the rivers and the flood plains that the pipelines were in was also a factor in each of those accidents.

We looked a little bit at the consequences of the accidents. The one thing that stood out was the October 1994 flooding of the San Jacinto River in Texas.

That accounted for 62 percent of the gross spill volume for those 16 pipeline failures where the depletion of cover was a factor. We're still massaging this a little.

When you see this on a website later, instead of saying half were from crude oil pipelines, it's going to say that they were fairly evenly distributed among crude oil refined petroleum products and highly volatile liquids.

That statement that half, that was the 20 that occurred at the crossings, not the 16 that actually had depletion of cover as a factor.

So when you look only at the 16 where depletion of cover was a factor, you know, six were crude, five were refined products, and five were HVLs.

So they're fairly evenly distributed there. Fifty nine percent of the gross spill volume was refined product pipelines, and none of the 16 were from carbon

dioxide pipelines.

So then our next step is we hope to get the report to Congress before the due date. And since we have found that a depletion of cover was a factor in 16 accidents in inland water body crossings, the next step then will be to provide Congress with an update on plans to ensure the sufficiency of PHMSA regulations regarding depth of cover.

And again, that would be due a year after the report. And that's my presentation.

CHAIRPERSON FORD: Thank you. Any questions for Mr. Keenan? Mr. Weimer?

MR. WEIMER: Yes, just a couple of questions. I was surprised that there was only 2,800 crossings of inland waters.

Is there a definition of inland waters that constrains how many water bodies that might be? I'm assuming that doesn't include every creek that a pipeline crosses.

MR. KEENER: I don't think so. Our mapping folks used some USGS data sets and another set from a government agency. So basically, we tried to find the lines that we considered were water bodies, and then overlaid another set that told us how wide they were.

And so yes, I don't believe it's creeks and, you know, I'm not sure the exact constraints. But you know, it has to be a little bigger than just a creek to be considered an inland water body.

MR. WEIMER: Okay. And second question was as you move forward in the next year looking at whether the regulations are good enough, are you going to just focus on water bodies, or are you going to focus on depth of cover on all pipelines?

One of the things we hear over and over again is how the depth of cover regulations are not appropriate out in the middle of nowhere, even.

MR. KEENER: Yes, the second part of the mandate didn't restrict that study to inland crossings of inland bodies of water. So I imagine the sufficiency review would be broader than just at water crossings.

MR. WEIMER: Great, thanks.

CHAIRPERSON FORD: Mr. Denton?

MR. DENTON: So there's not a draft report out at this point on this?

MR. KEENER: No. It's not posted anywhere.

MR. DENTON: Okay. So just a comment or two. Obviously this was driven a lot by the events in 2011. I think it's important to note that those were very rare and extreme.

And that you know, I think there's been a lot of discussion around the, you know, is four foot of cover sufficient under a water crossing, a river crossing.

But given the current regulations, the standards and RPs that are out there, even

the printed operator clause in the regulations, and showed that last year, multiple operators are out there replacing a lot of river crossings.

So to come up with a prescriptive standard on a depth, you know, may not be the best use of resources or dollars. So industry's spending a lot of money on this situation.

You know, a new river crossing is very expensive, but a failure in a river is obviously more so. And that's been shown in recent instances.

So we're already incentivized to make sure that we take care of those things. But secondly, you don't want to go spend dollars where you don't have to. So you know, there needs to be some risk based analysis associated with that. Thanks.

CHAIRPERSON FORD: Mr. Pierson?

MR. PIERSON: Going to the first slide, I missed the 2,800 and 72 population.

Was that 100 foot waterways, but not respecting the high water mark?

MR. KEENER: Yes, we were unable to do anything from a data perspective with high water mark to high water mark. What we did when we essentially created a layer of inland water bodies, and then overlaid that with our liquid pipelines.

So as you can see, most of the locations had a 100 foot or greater width that were identified when we overlaid those two data sets. So another reason to lead me to believe that creeks were not included.

MR. PIERSON: Okay. I'll continue Mr. Denton's comment that the Yellowstone Rivers got a lot of attention, a lot of operators not waiting to be told what they needed to go look at.

And it's a lot of them go above and beyond what's required today, but still looking at what more, I'm trying to balance the risk of it is a tough thing to do. But

we're looking at it, working on it.

CHAIRPERSON FORD: Thank you. Mr. Lesniak?

MR. LESNIAK: So this study was really just restricted to what's the universe out there, what kind of accidents have occurred and whether or not cover was involved?

And it wasn't a identify what the best practices are, what the current state of the art is, any of that? It was really just is this a problem out there today, as opposed to what's the industry best practices, what are other options?

MR. KEENER: It would be the former. It was just has depth of cover been a factor in any, and I think the word any is actually in there, accidental release of hazardous liquids at crossings of inland water bodies.

So it's pretty straightforward at first. The next prong, if you will, the

sufficiency review will have to get into more of those issues of best practices and are our regulations sound regarding depth of cover.

So this was a pretty cut and dry to fairly simple part of the mandate.

CHAIRPERSON FORD: Jeff?

MR. WIESE: I just wanted to add some perspective because I think, again, I know we pushed three things at you really fast. They're not meant to do much more than let you know where we are with some Congressional mandates.

Where as I said I think between mandates and recommendations now, we're up to 78 or 76. And this committee gets exposed to all of them.

So these are not rulemaking activities that we're going through now. They're things that will be out there that are meant to inform the broader debate, get a public debate going on these issues.

But clearly, any implications will

follow through on the rulemaking. On this one, you know, just based on personal experience, and it's only 14 of those 20 years, but what we see a lot is record flooding.

During record flooding, you'll see a whole series of these things happen. You know, and clearly, for the reasons that Blaine has pointed out, depletion of cover, sometimes that happened pretty fast.

In some cases, it's debris running down a river that, you know, under normal circumstances, you would never anticipate the scour and then the debris just almost puncturing a line.

Pretty amazing, you know, the amount that some of those record floods took off of the top of these lines. So yes, just wanted to make clear, these are not meant to be anything more than meet the mandate.

They say study and tell us if this happens very often, and if so, what kind of

consequences. We then have to go through, you know, another entire process to consider any of the implications of these things.

So I know it feels kind of unfulfilled to have a study dumped in front of you and, well what does that mean, you know. But it is what it is.

CHAIRPERSON FORD: Mr. Kuprewicz?

MR. KUPREWICZ: Yes, as a representative of the public, our perspective is this is kind of a starting process that, sort of question by Congress, kind of a data validation.

The public isn't looking for perfection at this stage of the game. The long history of the Advisory Committee, there's a process that will take to rulemaking and right or wrong.

You could think of sausage sometimes, but there tends to be a level of understanding and communication. So we just see this as a starting process from our

perspective.

And I think it's a good start. I think there's a lot of rational process here. There's a lot of work that was done in the last year, and so I want to compliment you on that perspective.

Don't know what the final reports are going to look like. May not even agree with them all. But that's not necessarily what we're trying to do here at this start of a very important process.

And some of these issues will be more important than others. Thank you.

CHAIRPERSON FORD: Lesniak?

MR. LESNIAK: It would be interesting as a follow on to this study, you know, I know from my own personal experience in central Texas is the industry spends a lot of time looking at their crossings, at their stream crossings and fairly frequently in our area, lowering their lines.

And it would be interesting,

because this is just looking at accidents. But one of the things that might be more telling is the industry does a good job of paying attention to their lines and identifying those.

It would be interesting to find out how often lines are installed that later on have to be lowered, because what that says to me is that the initial design probably did not account for the potential for erosion at that stream crossing.

You know, where I work in the City of Austin, we've done an enormous amount of research on erosion hazard zones, both horizontal and vertical erosion.

And the state of that art has advanced significantly in the last five to ten years in how you can predict with a lot of accuracy the rate of vertical and horizontal erosion.

And I would be interested in seeing PHMSA include some of that and share

that with the industry down the road.

CHAIRPERSON FORD: Thank you.

Jeff?

MR. WIESE: No, I just want to say, I think that's half the purpose of these committees is to, you know, a lot of people here are sort of on the cutting edge of being informed on issues from different perspectives.

So it is the point of the committee. And I'll go back to you and say anything that you want to provide to the committee we can easily do that.

We can post them in the dockets, happy to do that. I suspect we'll be talking about this for quite a while. And I know that you know this.

I mean, we have a complex picture. We have some lines that have been in place for a long time, and there haven't been a lot of change. Then you hit record flooding, and that changes things.

But then you have other situations that are relatively new. You know, if that's true, you would think that the modeling would be a lot better.

I thought where you were going to go with that when I was trying to figure out how to get there was I think that's probably right. The industry proactively probably does address a lot of these issues.

We see those, too in our reports from operators who have said hey, the line was exposed. You know, they're out there, they're working on the line.

I have no idea how many times they proactively get out there and address that. Honestly, that would go back to the industry to say at some point.

I think we'll have that debate as we talk about implications of depth of cover going forward. But thank you.

CHAIRPERSON FORD: If there are no other questions for Mr. Keener, we'll go to

break for how long, Jeff?

MR. WIESE: Until when? Okay, 2:30.

CHAIRPERSON FORD: 2:30, thank you.

(Whereupon, the foregoing matter went off the record at 2:08 p.m. and went back on the record at 2:30 p.m.)

CHAIRPERSON FORD: Now that we've reconvened, we will start with Agenda item 3, Emergency Response, Sam Hall. Sam?

MR. HALL: Thank you. Good afternoon. I'm Sam Hall. I work in program development within the Office of Pipeline Safety.

And I'm here today to provide some information about our efforts to better engage with the emergency response community and to improve pipeline emergency response.

Just a minute here. I need to wait for the, okay there we go. The presentation that I'm going to give today is

truly for your information.

And it's not going to encompass everything that is happening in the emergency response world, that is the pipeline emergency response world.

I'm trying to cover some of the key things that we are focused on within PHMSA. The industry is certainly extremely active in emergency response efforts, and so would welcome any discussion on what's happening outside of PHMSA.

Our goals within PHMSA are listed here. We want to reduce the consequences of pipeline failures by strengthening the capabilities of local emergency responders by institutionalizing pipeline awareness within the emergency response community.

When I use the word institutionalize, I think I might be the only person who uses that consistently. But what I am saying with that word is that we want to create solutions that make pipelines a matter

of course for emergency responders, just as other issues that are important to emergency responders are a matter of course, structure fires, vehicle accidents, roll overs.

These are matters of course. And so pipelines need to be institutionalized in the same way. So to accomplish this goal, we've undertaken a variety of initiatives and activities.

The first is to educate ourselves and to educate the emergency response community by hosting and participating in a number of forums and meetings. I'll talk about some of those.

We recognize that we can't achieve our goals without partnerships. The emergency response community is huge. And the issues that face emergency responders on a daily basis are many.

And we need to build partnerships with people who deal with these issues on a regular basis.

We're also actively communicating with the emergency response community through presentations at conferences, we're hosting booths, we're publishing articles in emergency response trade publications.

And we're also creating or enhancing pipeline emergency response resources. So I'm going to walk through each of these in turn.

Educating ourselves and the emergency response community. We've either hosted or attended multiple events in the past year or year and a half.

The first of these was a meeting at Spectra Energy. It was an INGAA sponsored event that focused on pipeline emergency response. That was in September of 2011. A lot of great lessons from that.

PHMSA hosted an emergency response forum in December of 2011 at the DOT headquarters. And just recently, this past October, we, with the help of the folks who

organized the hot zone conference down in Houston hosted a pipeline emergency response focus group.

I've listed two key lessons that we've learned through all this. This is by no means comprehensive, but the first of these is to leverage existing resources as we try to tackle the many problems that face us in pipeline emergency response.

That is, there's no need to reinvent the wheel. We don't need to create new institutions, new solutions. We need to take what exists and modify it to better serve pipeline emergency response.

Other industries have certainly created wonderful models for doing this. The chemical industry is a good example.

The second key lesson is that we need to ensure continuity and sustainability of our solutions. That's the institutionalize that I keep using.

We need to make sure that what we

come up with is institutionalized and becomes a matter of course. I mentioned that we're building partnerships to try to achieve our goals.

The longest standing partnership that PHMSA has with the emergency response community is with the National Association of State Fire Marshals.

We've had an ongoing partnership with the Fire Marshals since the early 2000's. And the key deliverable from that partnership was the pipeline emergency's training curriculum.

You can view that training curriculum at www.pipelineemergencies.com. It's an extremely comprehensive training curriculum. It talks about many aspects of pipeline operations, pipeline emergency response and so forth.

We've gotten some great feedback on that program. Have heard that it could be broken down into smaller bite size pieces,

that the training could be broken down to be more applicable to certain segments of the emergency response community and so forth.

So that's a great resource that's out there, and I think some good things can come from that in the future.

The second partnership I wanted to mention is one with an organization called TRANSCAER. TRANSCAER is an acronym that stands for Transportation Community Awareness and Emergency Response.

These folks are very active, and have been traditionally very active in other modes of transportation of hazardous materials, rail, tanker truck.

And the focus is on training emergency responders at the local level. Tim Butters, our Deputy Administrator was active in TRANSCAER in a former career role and introduced us to TRANSCAER.

And we have become partner representatives on the TRANSCAER National Task

Group, and we are actively seeking representatives from the pipeline industry to get engaged with TRANSCAER and start focusing some of the TRANSCAER training materials on pipeline transportation.

A relatively new idea has come down from leadership, and that is a potential partnership with the Emergency Management Institute and the National Fire Academy to approach pipeline hazard mitigation from a top down perspective, try to encourage state emergency management offices and local emergency management offices to address the hazards inherent in pipeline transportation and their emergency management plans.

We've stood up a pipeline emergency response working group. I've got a slide on that that I would like to cover.

And then the last bullet here is we've conducted a pilot in the state of Georgia to try to improve training for emergency responders there. And we've also

done a pilot in the state of Virginia with the Virginia Department of Emergency Management.

Briefly on the Pipeline Emergency Response working group. This is a working group that we stood up in June of this year. It's about six months old now.

We have spend quite a bit of our time trying to identify how we can best contribute to solving some of the problems that we want to solve.

The first thing we want to be is a platform and a voice for the pipeline industry and emergency responders on a strategic level.

We want to serve as a platform for collaboration on identifying and facilitating solutions and pipeline emergency response. We want to develop an inventory of existing resources.

Again, we want to leverage those existing resources as best we can. We don't want to create something new. So in order to know what those resources are, we want to

create an inventory of them.

And of course the idea being, again, to institutionalize pipelines in the community. And we need to address gaps in existing resources through partnerships.

I apologize for the size of the print on this graph. But here are the members of the emergency response working group.

Two of the members are also members of our advisory committees, Lanny Armstrong who is at the table with us here, Fire Chief out of Pasadena, Texas and Jerry Rosendahl, who is the current head of NASFM.

Larry Halmerson, who's also bolded, he's number 12 there, he's with Williams and also a representative of INGAA, has just announced that he's retiring.

And so unfortunately he was one of the chairs of this working group and we're sad to see him go. He's got some great ideas and has been a tremendous help.

You can see that the working group

is heavily populated by folks from the emergency response community, and also the pipeline industry, which I think is a real asset.

The Georgia pilot. I have to confess, I have not been heavily engaged in the Georgia pilot project, so I don't have much to say about it.

It is being led by our southern region. It's a working group very similar to our national working group of pipeline operators, emergency responders and regulators.

And their goals are really to focus on effective communication and training for emergency responders at the local level. They want to create a model that can be transferrable to other states.

I think they've had some pretty good success to date, and I think I should be able to share some more information about that if I'm lucky enough to get on the agenda at

the next set of advisory committee meetings. I think we may be able to talk some more about the successes in Georgia.

Outreach to the emergency response community. We're going through the regular channels here to reach out to emergency responders.

We've made presentations and hosted booths at multiple conferences, big national conferences around the country, the Hot Zone Conference in Houston, the International Association of Fire Chiefs HAZMAT Conference in Baltimore, the FDIC Conference in Indianapolis, Continuing Challenge in Sacramento, and the Midwest HAZMAT Conference.

We've also published several articles in some fire service publications that might be of interest to you.

At the end of this presentation, I'm going to put up a slide that has a URL for a website that we've developed that highlights

all of the things that I've talked about and gives you links to some of the publications we've written and some of the articles we've written for publications and some of these other things.

This, I believe, is my last slide, and it's a doosey. It really lists a lot of the resources that we think are relevant to pipeline emergency response.

And I think in each of these, we have some opportunity to either improve or update or communicate better about how these resources might serve emergency responders better.

The first is obviously the National Pipeline Mapping System. One thing we've found is that emergency responders in many communities are not aware of pipelines in their communities.

They're simply not aware of where they are, what's in them, who operates them, those kinds of things. So the National

Pipeline Mapping System is a great resource for just understanding where the major transmission pipelines are across the country.

Some gaps we've identified in that system are that we don't have emergency contact information for operators there. You know, and there are some other gaps that could be filled to make it a better resource for emergency responders.

The pipeline emergency's training curriculum I mentioned, a very comprehensive training curriculum. The Emergency Response Guidebook was recently updated for 2012 and has expanded pipeline pages now.

I think there's a four page spread in the white pages that addresses things like how to identify leaks, what to do when you come upon a major pipeline release, those kinds of things. Very simplistic how to's on dealing with a pipeline emergency.

The Pipelines and Informed Planning Alliance also has some recommended

practices that address hazard mitigation, pipeline hazard mitigation at the local level, especially in terms of land use development.

Call Before You Dig, obviously, one of the best ways to prevent a pipeline emergency in the first place is to not impact them with a backhoe or not dig into the pipelines.

Our Technical Assistance Grants program can offer some assistance to communities to deal with technical issues around pipeline safety to include emergency response issues.

Of course, our community assistance and technical services program managers are all available to help deal with issues around emergency response, pipeline emergency response. And our websites, of course, offer some good information.

The last bullet here is on a particular project that is being funded by the Hazardous Materials Cooperative Research

Program. That's a PHMSA grant program.

And last year, we provided approximately $300,000 to a university to conduct a study and to ultimately develop a guide that will help emergency responders and pipeline operators communicate.

What to communicate, how to communicate and how to ensure that the information that is communicated gets to the proper people within the emergency response community so that we can avoid situations in the future where emergency responders simply weren't aware of pipelines in their communities and didn't know what to do.

That's right, paid for by PHMSA HAZMAT. The last slide here, this is my contact information. Feel free to contact me any time.

The last URL there, probably the easiest way to get to that is to simply go to Google and Google pipeline awareness or PHMSA pipeline awareness, and you can very easily

get to our page and link to emergency response.

It's really an index of all the things that I've just spoken about, links to pipeline emergencies, and more information about all the programs that I just discussed.

CHAIRPERSON FORD: Thank you, Mr. Hall. Mr. Wiese?

MR. WIESE: Just wondered, do you want to say anything about, you had sent a press release to me today.

MR. HALL: Yes, I'll mention that the National Emergency Numbers Association, NENA, and I don't know very much about it so I apologize, but maybe just to put a bug in your ear, they just created an application that allows pipeline operators to directly communicate with the Public Safety Answering Points, PSAPs or 911 dispatch offices in the communities that they're pipelines traverse.

As I understand it, it's a fee service. But you can very quickly directly

contact the Public Safety Answering Points in communities if you suspect a pipeline break, which of course was the subject of a recent advisory bulletin from PHMSA.

That's as much as I know about it. I saw their press release. It's on their website, NENA.org, and I believe it's under the press link.

MR. WIESE: I would just add, if I could?

CHAIRPERSON FORD: Sure.

MR. WIESE: You know, as Sam eluded, there's a lot more going on than we've had time to kind of skim over the surface.

I know Tim's probably involved, for example. Colonial is in the Georgia pilot. You know, Massoud's very aware of what's happening in Virginia.

So welcome any of the committee members talking about it. I'll just say the reason I highlighted that NENA and the 911 is having Tim Butters really has been very

helpful to engage with the emergency response community.

You know, he's been engaged with that community for most of his career in one way or another. So he knew a lot of people that we didn't know and was able to open doors that we're now having really good conversation.

So been immensely invaluable on that. And one of the things that I think the NTSB was interested, and so were we, I mean, is how do we communicate more effectively with the 911 centers when we know that something has happened?

We have a major incident from the summer of 2010 in which, you know, it would have been extremely helpful for the 911 center to know that an operator was having problems with their line in that area because they were getting other calls that they could have pieced together very quickly, you know, to really and the operator would tell you if they

were here.

They would say I wish to hell I would have had that information sooner. So that a part of this initiative of drawing the 911 centers in closer is to make sure they're better informed and they can help.

You know, if they gather two or three pieces of information and then can communicate with the operator, I think it will be in everyone's, including the operator's, best interests.

So we'll keep exploring the opportunity to improve the relationships, connections. That was another learning PSAPs, the public, it's not always 911.

I mean Lanny would probably laugh at us. But instead of always 911, it's the Public Service Access Point, yes, Public Safety Access Point.

So any rate, yes, there's a lot going on. Sam's done great work in there. We didn't show you, we sent him into fire school

and had him gear up and learn that it might not be as easy as it looks sometimes to wear all that gear and have to respond, too.

MR. HALL: Great.

MR. WIESE: Thanks.

CHAIRPERSON FORD: Questions for Mr. Hall? Thank you, Mr. Hall.

MR. HALL: Thank you.

CHAIRPERSON FORD: You did a fine job.

MR. HALL: You bet.

CHAIRPERSON FORD: Our next Agenda item is item 4, Fitness for Service. Linda Daugherty and the panel? Linda will introduce the panel.

MS. DAUGHERTY: Good afternoon. This is Linda Daugherty, and it's good to see you all. Thank you for coming up in the middle of December.

Someone pointed out to me we should all be off doing our Christmas and holiday purchases right now. But appreciate

you coming up here.

You know, we looked at issues that are facing the American public in regard to pipeline infrastructure and pipeline safety issues in general.

We know we've got a whole lot of work ahead of us. We have not only an immense growth in the pipeline infrastructure related to unconventional shells, the oil and gas.

We've got new pipelines going in everywhere, many of those which are not currently regulated by PHMSA, but yet they do pose some safety issues we need to consider.

But we also have a whole lot of existing pipeline infrastructure that is getting older. That doesn't make it bad, old is not bad. I think we clarified that a couple meetings ago.

But sometimes there are challenges that are presented by pipelines that were built 50, 60, 70, 80, 90 years ago. They were built out of different construction materials.

They were perhaps constructed using different standards. Anyway, there's a lot of challenges associated with maintaining those facilities and making sure that they can operate safely today and for the next generation.

So as you know, you know, the last few years we've had a lot of accidents. And that generated a lot of concern. You know, we had the Secretary issuing a Call to Action a couple of years ago and said hey, we need to take a hard look at some of our pipeline infrastructure and requalify or replace some pieces of pipe, make sure it's good to go.

You know, make sure the next generation can thrive with a good, sound energy infrastructure. On the other hand, you also have the administration saying hey, there's a whole lot of work out there that needs to be done, and put forth a budget request which proposed some significant increases for PHMSA and our oversight ability

to take on some of these challenges and provide safety oversight.

And then you also have Congress and their, let's see, I actually have the count Jeff. We have Congress gave us 37 mandates on January 3rd.

And the OIG as of now have given us nine recommendations. And the GAO currently have two recommendations. And then we currently have 26 open NTSB recommendations to PHMSA, plus six directed to the Secretary.

So what that means is we got a whole lot of work ahead of us. We got a lot of challenges. And there are no absolute solutions on how we address every one of these.

These are not easy answers. These aren't just oh, well we'll just issue a regulation and fix this. They require fast removal of a certain type of pipe or a certain correction.

They're issues that have to be

addressed sometimes individually, sometimes uniquely. But they need to be addressed for safety.

So we started trying to figure out how we could tackle some of these more complex issues and realized that there isn't a single solution. Not to some of them.

And sometimes, the solution may be a way off. We can't just say fix everything immediately. It may take a decade to get there.

But in the intermediate time, between now and when we have the perfect solution, we have to know that those pipelines can operate safely. We have to know that they're fit for service.

So we did some research trying to understand what the term Fitness for Service actually means and how it can be applied to assure that we have safe operating systems.

And so for this meeting we ask members Larry Shelton to speak to us a little

bit about what a fitness for service program is, just as a primer on, you know, how it's used elsewhere or how it's used within the industry or how it's used generally and educate us on how it might be effective in confronting some of our challenges.

So with that, my thanks to Larry, and turn it over to you.

MR. SHELTON: Thank you, Linda. As Linda said, this is just intended to be a primer on fitness for service and how it's applied in various areas, including in our own industry.

There are some examples in here for illustrative purposes. There aren't any recommendations in here. These examples are just to help illustrate how fitness for service approach actually works.

As we mentioned, there is not exactly an ideal world of pipelines out there. The ideal world for hazardous liquid pipelines would be that, you know, the pipelines were

manufactured to a standard, and it was 100 percent quality controlled, so we knew exactly what steel was being put in the ground, designing construction to standards, hydrostatic pressure tests to establish the maximum operating pressure, and yes, traceable, verifiable and complete records of the design and construction and maintenance.

The pipe fully protected from the environment so there are no hazards, no threats to it and a steady operating pressure.

Well the reality is there is pipe out there with older manufacturing design and construction techniques. The MOPs may not have been established by some party, records may not be complete.

There are certainly environmental threats to pipelines, and there's pressure cycling. Sometimes not very aggressive, sometimes it is more aggressive.

So how can we know then that pipeline is in a safe condition to operate or,

in other words, how do we know that pipeline is actually fit for service.

And so first of all, we probably should talk about fitness for service and what that actually means.

And there's a number of definitions that are out there, but I think this pretty well captures the essential elements of it, and it's the condition of being suitable for an intended service and maintaining that suitability through an intended period of service.

So making sure that it's suitable for the service that you put it in, and that it stays in that condition for a certain amount of time until you can come back and reevaluate it.

And key to fitness for service then is the fitness for service assessment. This is really the program behind fitness for service.

And it is a quantitative

engineering evaluation performed to determine the level of integrity, or fitness, of an in service component that may contain a flaw or damage.

And key elements of that are that it's quantitative and it's an engineering evaluation. And it's applied in many safety sensitive industries already, nuclear power, refining of petrochemicals, which we'll expand on here in just a few minutes, aircraft, especially air frames, again safety sensitive, but not always easy to inspect on a constant basis.

Even space vehicles where once they're in space, it's difficult to do the inspection, so we have to make sure that they're fit for service before space flight.

And even medical appliances because once they're installed, again, they're difficult to inspect.

Expanding more on the assessments on fit for service. It's a multi disciplinary

engineering analysis to determine whether the equipment is fit for continued service over the desired period of time.

Components may contain flaws, they might not meet current design standards, or they may be subjected to more severe operating conditions then assumed in the original design basis.

So these are reasons why you might do an assessment, what would trigger the actual assessment.

But what's important in assessment is that it consists of standard analytical methods to assess the flaws and damage to quantify them and then to predict their development over time so that you know the period of time for which they will be fit.

And to the extent practicable, analysis has to be quantified. When it can't be accurately quantified, then the most conservative reasonable boundaries are assumed.

So additional safety factors might also be applied, depending on things like the tolerance for the measurement system that's used.

And then the assessment leads to a decision. And this decision could be to continue the service with no further action. And sometimes that's a design imperative.

For example, you know, I mentioned medical appliances where for a coronary stent, it has to go through thousands of pressure cycles a day for decades without any further testing.

So it has to be constructed in such a way. Now the decision may be to continue service or monitor at a specified interval.

The decision may be to de-rate it because it's not capable of going through the next intended period at the current rate of use or level of use.

Might be a decision to modify it,

to make it so that it can be suitable for the next intended period, or to repair it, to bring it back to its original condition, or to replace it or to simply just abandon and move on to something else.

Critical elements for fitness for service assessments. The first one is understanding the set of damage mechanisms to which the component must be subject or may be subject.

This is really important. Understanding the damage mechanisms and not just making assumptions as to what they could be, but knowing what they are.

And their ideology and their development must be understood. In other words, the way they progress. So a particular flaw, what will happen to it over a particular period of time.

Will it continue to develop or not? Is there some critical point that it will reach and at what point will it reach it?

So it has to be, then, a measurement system to quantify the flaw in its current state so that we can then apply that what we know about how it will develop.

So knowing all that, the time dependence and the current condition, that's all necessary to determine the remaining life in making that decision from the previous slide.

But the good news is generally, the damage mechanisms for pipelines are pretty well established. We have a lot of data, reams of data regarding pipelines from a long period of time from which to study them.

I mentioned use in the refining in petrochemical, and that's found in API 579, which now as known as ASME FFS-1. The two documents were combined into one when it was expanded beyond its original intent, which was for in service operation of plant pressure vessels, piping and tanks.

It was driven originally by OSHA

1910, the Process Safety Management Requirements. And the refineries and petrochemical facilities have a wide variety of damage mechanisms, more so than pipelines in general because of the conditions, the hostile products that they deal with, the heat and so on.

But FFS-1 addresses each of those damage mechanisms then with a prescribed evaluation process, and then guidance for the decision making regarding continued service.

And it backs it up, also, with providing the technical basis for the FFS assessment. FFS-1 does have some application to transmission pipeline assessments, but not in a wholesale manner because the damage mechanisms are different, and also the methods of measurement are different.

So the principles that are already at work in the hazardous liquid pipeline industry are seen in 195.303, the risk based alternative to hydrostatic pressure testing,

452, the integrity management programs, and I'll talk a little bit more about those.

But also in API 653, the above ground storage tank inspection program, determining seam susceptibility to cracking, fatigue analysis, and a number of others that we could talk about.

But I want to talk about those first two because they're good examples of those fit for service assessment principles being applied.

With the RBA, the regulations prescribed decision making process to determine whether the given pipeline requires a hydrostatic pressure test to establish maximum operating pressure.

And it's in tabular form, but it essentially adds up to a flow chart of weighted factors for documenting operating history, pipe condition, risk failure, and brings you then to a conclusion about whether the pipeline can be operated safely, or if it

requires further evaluation on a schedule, or that the RBA is not appropriate and hydrostatic testing was required.

So for example, certain seam types where it was determined that RBA, the evaluation process would not adequately determine whether that pipe was safe without conducting hydrostatic tests.

If we were to revisit RBA today, that might be a little bit different, other additional seam types might be included because the advances in technology give us new measurement systems by which maybe we can characterize the condition in those seams.

But at that time, they couldn't be concluded, and therefore RBA was excluded for that. And it requires an annual review of the risk factors to make sure that things haven't changed and that RBA is still appropriate for that particular line.

And the integrity management program as a fit for service application, it

establishes a minimum desired operating interval.

So we did, in this case, start with the desired interval, not determine what the service life was. But we prescribed the minimum desired operating level, in this case, generally five years.

And then prescribes a testing and evaluation that confirmed that it's going to be fit for service for that period, until the next testing cycle.

It prescribes integrating data to determine the damage mechanisms for a particular segment because it recognizes that each segment has a unique set of damage mechanisms, a small diameter mild steel pipeline operating at a lower pressure doesn't have the same ones as a large diameter, say X52 or hard steel operating with a lot of pressure cycles and close to its MOP.

So they're different and need to be treated differently. It sets safe limits

for those damage mechanisms and provides for shorter or longer intervals than the five years, as indicated by engineering analysis.

And it drives the decision making for safe continued service, based on what we determined through our integrity assessments, we decide whether to repair or not repair or replace or even in some cases to abandon.

So in conclusion, FFS assessment is widely accepted and applied model for quantifying flaws and determining the remaining life of safety sensitive equipment.

It's already being applied in hazardous liquid pipeline industry in a number of places. Understanding the damage mechanisms is critical to successfully applying fitness for service.

And the technology continues to improve our ability to effectively apply it by giving us better measurement systems so we can more adequately quantify the current state of a component.

And FFS greatly enhances our risk management by replacing assumptions in the absence of being able to apply quantification, we end up taking very conservative assumptions.

And now we can replace those assumptions with qualitative analysis and real risks then get identified through the assessments.

And the resources can be redirected from the over conservative assumptions that we were making to those real risks that are determined through FFS.

So with that, I think I'll turn first to the industry members here, and any comments or anything that we should elaborate on?

CHAIRPERSON FORD: Questions? Mr. Kuprewicz?

MR. KUPREWICZ: This is getting a lot of discussion in the State of California and there's a whole lot of attorneys. We're

not going to resolve it today. It sure got people pretty stirred up.

And you can pick which side, I don't really care. I just look and advise people who telling the truth and who isn't. Let me ask a question.

Under current federal pipeline safety regulation, is Fitness for Service specifically referenced or identified in federal pipeline minimum safety regulations? Yes or no.

MR. SHELTON: Using those particular words, no.

MR. KUPREWICZ: Okay. We got a lot of work to do then, apparently, before we go too far in this. We're still working on an integrity management program.

I'm not for or against this particular from a public perspective. I just look at the arguments that are being presented.

And usually from a public

perspective, what adds credibility to an industry position is can you independently verify your assumptions? And if you can, then you've got good, solid science.

It's when you make assumptions that quote are best engineering judgement, but there's no quantifiable trail, credibility starts getting out the door and that's, you know, we're not here to create fights, we're here to solve problems. Thank you.

CHAIRPERSON FORD: I guess my concern would be those pipes that have been in the ground over 100 years. So some of them possibly wouldn't be fit for service. Is that true?

MR. SHELTON: Well, I'm trying to understand the question. The question is could they possibly not be fit for service. That's possible, but it's through a fitness for service assessment that that's determined.

CHAIRPERSON FORD: You have to perform?

MR. SHELTON: That's right. And if we can't get the quantifiable data, then we have to then revert to the assumptions.

CHAIRPERSON FORD: Okay. Any other questions? Oh, I'm sorry Jeff.

MR. WIESE: I think I would add the comment that again, not trying to drive any particular way, but I've seen enough people have discussions.

Carbon steel pipe, by its nature and its properties of carbon steel in the last 100 years doesn't technically age for pipe operation.

It's all the other stuff that gets into the pipe that can cause a problem. And this keeps coming up because the public thinks well, if it's old, we got to rip it out.

Well I can show you examples of fairly new pipe that's probably not as good as 100 year, not 100, maybe 50 year old pipe. So we want to be careful of those kind of inferences that's real easy for people to

think well, I'm buying a new car, therefore it must be better.

Well, of you bought a new car and it's a lemon, yes, your older car might have been better. But I want to encourage this discussion here, but the devil's going to be in the details because right now, they're going to war in California and that's not the place where you really want to be.

CHAIRPERSON FORD: And they're starting war in Illinois, so that's why I ask that question. Jeff?

MR. WIESE: I just wanted to add a couple of quick points. And I agree entirely with Rick's assessment. But I also very much liked your initial slide, well one of the initial slides, you don't have to go back to it.

I mean, I think we all got the point. In a perfect world, you know? In a perfect world, we can all predict with some level of accuracy where things are going.

Unfortunately, as you acknowledged, we don't have a perfect world. And as we've seen in, you know, many instances over the past few years, the assumptions, or Rick's point, the assumptions were predicated on something that was less than solid.

You know, and so I couldn't agree more. Really, you know, in addition, I wanted to just take the opportunity to second what Rick has just said. Some time ago, we used this committee strictly to vote on rules. Just vote on rules.

You know, when a rule came up, the Committee would talk about the rule. What are we going to do, is it technically feasible, practicable and cost beneficial, and that was it.

We agreed, you know, probably three or four years ago that we were going to expand the use of the committee and start getting into policy relevant discussions that presage, you know, regulations if there are

changes.

But to have an open and public dialogue about important topics like this, it's why we ask folks to come forward. But I would put it in a larger context and we'll continue this discussion, by the way, tomorrow.

There is a larger thing if, you know, whether it's we tried, I don't know how you want to paraphrase this one. We kind of cutely call it IMP 2.0, you know, as a way of saying IMP was good.

We've accomplished a lot of stuff, but there's stuff that remains to be done. In the next take on IMP, what do we need to do? That's the conversation we want to have with people.

So we are going to be serving stuff up in that regard. Just so that the committee is aware of it. You know, when we finally get to an implication, what's the rule?

We'll have had a broader conversation, because I'm with Linda. We can be driven by Congressional mandates and recommendations from everyone and their brother to take care of one problem or another.

But Todd sort of touched on it earlier, is that the most important problem? You know? Should we be tackling that one first? Or just take them in alphabetical order here?

Resources are limited. I think Linda eluded to that. We have to, and I think Rick made a statement about this at the last meeting, you know, we need to focus and prioritize.

So our goal, and you'll see tomorrow, Ron McLean is here. He's chairing the API SMS committee. He'll be talking about that on purpose.

You know, again, it's part of the process of warming up for IMP 2.0. We've had

workshops on risk assessment, right? We've been engaged in risk management as long as I've known some of you.

You know, and there's a lot of good work yet to come. But we solicit your input and your advice on these things. But we do intend to hold multi-day meetings next fall, which we're cutely calling IMP 2.0.

And I would like to do some work between now and then so when we get there, you know, we can actually have an informed debate.

So help us with the topics that you want to talk about and we'll bring stuff forward. And we should have an active conversation on it. So I look forward to a lot of those discussions.

I'll close by saying, one of the things that as I look at the various methodologies for predicting, which is really what these are, they predict, you know, I'm safer given a period of time, I always like to say can we find some incidences where there

were failures and say what data was available before the failure?

Using that model, would we have predicted that that failure would happen in that time? And if not, you know, what's wrong with the model?

You know, was it a gap in the data? So it's a very common technique to go backwards and say that is the model suitable because if it's not predicting these failures, somebody could have done a poor run, they didn't, you know, have all the data they needed in there. Why is a real question.

So I really appreciate your bringing that in. I think it is an important part of the debate, and sorry for going on so long.

CHAIRPERSON FORD: Richard Kuprewicz? And Carl Weimer?

MR. WEIMER: Yes, just a question, more of a comment actually than a question because I guess from a public standpoint that

doesn't deal with these things every day, I sometimes think we're talking semantics when we talk integrity management versus SMS versus fitness for service.

It all sounds like the same thing to me. You know, integrity management, at this point you're already supposed to, you know, assess your risks, test for those risks, reevaluate to prevent something from happening.

That sounds like what fitness for service is and to some degree what SMS is, too. And I don't know as we move forward with these discussions of fitness for service and SMS, are we really looking at just refining, getting to IMP 2.0 refining integrity management?

Are we talking, like, more prescriptive into the regulations for what fitness for service or SMS, is that where we're going with these, because it all sounds like one in the same to a large degree.

CHAIRPERSON FORD: Jeff?

MR. WIESE: Well, I think Linda's probably chomping on the bit to answer that one, too. You know, a highly relevant question.

They're all integrally related. You know, I think we would tell you that IMP was a good sized bite. It's all we could digest at the moment when we took it.

I would see IMP as a subset of SMS. You know, and fitness for service itself is really a subset of SMS. You know, SMS is something more broad.

I think you'll hear a lot on that tomorrow, so I won't, you know, steal Ron's thunder and other members who are fairly engaged on that front.

But we need to have a lot of discussion about SMS. And I think you'll begin to see, and there are a lot of phrases used, QMS, Quality Management Systems. SMS is a subset of Quality Management Systems itself.

So any rate, a lot more to come on this topic, and we do need to have a discussion in the public on that one.

CHAIRPERSON FORD: Oh, I'm sorry. Mr. Lesniak?

MR. LESNIAK: You know, over the time that I've been involved in pipeline issues is, you know, I think the regulatory scheme and the industry is both come a long ways in the years that I've been involved, and come a long ways rapidly.

One of the things that I don't hear a lot of discussion about is how can the public trust that an operator who clearly has a vested interest in the outcome of a fitness for service analysis, an integrity management program, and people here in the industry will probably say this, had a lot of people in the industry say to me there are good operators and there are operators that maybe don't meet the bar.

And where is the check? You know,

I think as we move forward into IMP 2.0, is where is the analysis and the check at with PHMSA that is going in and looking over the shoulders of these operators and saying we don't agree with your analysis.

Or yes, you did a great job with this analysis. Your pipeline is good to go for the next decade. Or however long it is, or no, we don't agree with your analysis, and you've got a pipeline that is a potential problem, and you need to take it out of service now.

Or you need to do additional testing, or you need to do something before there's an accident.

And it seems to me like that's one of the areas that over the last decade where we've made enormous strides, I think, both in the industry and with the regulators in the programs is that identifying bad situations before we have an accident.

That I think that it appears to

mean, maybe I'm wrong, but it appears to mean that this analysis that is occurring inside the industry, for the most part, is staying inside the industry until there's an accident.

And then the regulators come in behind, check those records and go oh, well you know, you should have spotted this. And as part of the discussion that we have going forward is how do we make sure it's being done right, and in a way that the public can trust?

And is identifying problems more, that the regulators have the ability to identify problem operators before there's an accident.

CHAIRPERSON FORD: Linda?

MS. DAUGHERTY: Yes. You know, I think you pose a very good question because, you know, if you look on the surface and you say look, we've had a lot of accidents in the last few years, why do those occur?

If we have integrity management plans and they're effective, why did any of

those occur? And I think that's a valid question.

But I do believe that what the public often does not see are all of the efforts that go into preventing accidents that don't occur.

Those are the ones that, through our inspections and through our oversight activities, both the federal and the state, you know, we are out there.

And we do look at, you know, integrity management plans, the work that they put in, their technical analysis, their engineering analysis.

And we look at it and sometimes we say no, not good enough. Go back and do it over again. Or we say this is a concern to us, we need to issue a safety order or we need to issue a corrective action order to remediate it.

But not to be a broken record, but it does come back, again, to resources. And

Jeff mentioned that. Where do we apply our limited resources?

When you realize that we have 135 inspectors, plus we have states, about 300 inspectors for 2.6 million miles of pipe, that's a lot of ground to cover.

That's a lot of analysis to look at. So you know, that whole broken record of we need more resources, we have to decide where we put our attention.

Who do we go out and look at? Where do we focus our inspectors and really dig deep? And we do have risk, you know, priority schemes to help us identify where we need to dig deeper.

But we also have to explore things like, you know, I'm trying to think of the right word for it. But a way to target inspection of high risk operators, which we did with IMP, but then go in and focus on what we review with them to make sure that they are thinking through the decisions.

Integrity management is all about making sure you have a sound basis for the decisions you make. You do need someone looking over the shoulder and checking it. And that's our role. I believe that is our role.

But I think it's the operator's ultimate responsibility to make sure those judgements are made. I don't know if I answered your question. Do you want to add to that?

MR. WIESE: I just want to add a couple things real quick. You know, first of all, I would say Carl and I have been friends for quite a few years.

We agree on most things, not on all things. As I say, I work for the public. We're public representatives. So public doesn't necessarily trust government, you know?

But I will tell you, the people that I work for are totally dedicated to that.

We've done survey after survey of our people.

They may disagree with us on 100 other things, but on that mission of public safety, they're fully committed to that. Linda talked about the resource issue.

On IMP, I'll tell you, we've written hundreds of violations about things that we've found. But we can, with the resources we have, we can only be there a slice in time, and only enough time to sample what's going on. Right?

That's clearly all the resources that are available for that. We spend a lot of our time with the transmission folks. The states, you know, dominantly spend their time with distribution.

Although some folks like Massoud have both. One idea that will keep coming up in our discussions as we get into SMS, there's a role for the companies to do more about checking themselves.

In a really structured management

system, there is always a component for internal oversight and reporting back to management that's independent of the people who are really doing the work.

So it's not the answer. There's a roll for transparency here. You know, more data in the public domain. Carl's worked that for years, you know, and I think successfully.

But I do want to point out and underscore this role for internal evaluations that advise management, there are models we'll talk about as we get into SMS.

Like, in the nuclear world there's a group called INPO. They're, you know, an independent group who conduct audits for the companies.

And they feed back to the management. They don't give it to the regular, I would love to have that. But I don't think that's going to happen.

But I still believe there's a role for the company to get an independent,

unbiased, sort of assessment of where they are so they, at least, are aware of where they are and can act on it.

So it's a good question. I think it does again feed into the SMS discussion that we'll have and you know, hopefully that will, over time, we'll begin answering that.

CHAIRPERSON FORD: Mr. Pierson?

MR. PIERSON: Craig Pierson, industry. If you look back, and Larry talked about this at Pipeline Safety Trust Conference.

You look back at IMP, and it's clearly driven some pretty remarkable improvements in the industry. And I think we're at a point where we need to figure out how to drive more. We would all agree with that.

I would also say that when you're on the receiving end of one of the audits, it is rigorous. The auditors are smart, and they're committed, and they ask hard

questions.

And a lot of it's driven to, using Sam's phrase, do you have a sustainable process that will outlive the people who are doing it today?

And will you get the same decision tomorrow? Is it repeatable? Is it sustainable? And I've always been impressed with the audits. And it's driving us in the right direction.

CHAIRPERSON FORD: Any other questions, concerns? I'm sorry, Linda.

MS. DAUGHERTY: You know, one other thing I would like to add is when you look at some of these decisions, these risk based processes, you know, your evaluation whether it be fit for service or IMP, it would be really nice if there was a standard process that we could say here, slap this process and everybody use it.

But it just doesn't fit. So every individual system has to have a slightly

different factors. They have to look at slightly different risks.

You know, Texas has different issues that they have to deal with that people in Minnesota might not need to deal with.

You know, Minnesota folks have to deal with frost heave. I doubt you have too much frost heave in Texas. So, I mean, there are different issues.

And so that means every process has to be modified slightly. So when you go out to oversee it, you have to take all that to consideration and say did you cover everything? Is there anything you missed?

And so you know, if we can get to the point where we have elements that say these are all the things that need to be considered, you know, whether it be critical elements of SMS, or elements of a fitness for service process, or elements of an integrity management plan, wherever it fits, if we come to agreement on what those are and hopefully

those will come out in our IMP 2.0 session, maybe we can take a step closer to coming up with a process that will fit across infrastructure.

And we'll be a step closer to more public transparency on some of these analysis.

CHAIRPERSON FORD: Craig, is your card still up?

MR. PIERSON: No.

CHAIRPERSON FORD: Shelton, I'm sorry.

MR. DENTON: Todd Denton.

CHAIRPERSON FORD: Denton.

MR. DENTON: Industry.

CHAIRPERSON FORD: Looking at the wrong person.

MR. DENTON: That's okay. Just a couple of comments. First, I didn't think I was going to agree where Rick was going at first on his first comment with the fitness for service because I don't think terms matter.

But I like where you ended up because that is, and I agree with you, I think it's important, as Larry pointed out in his presentation, that it's an engineering based analysis, and that it's sound, it's quantitative.

And then second, there was a little bit of conversation, this may or may not be the place for it, but about good operators, bad operators.

I know PHMSA's addressing that. And you know, from industry, we're doing the same. You know, we've got an initiative on improvement across the board.

You know, within our company we like to say when we go out and visit our people, you're only as good as your worst employee.

Well, as an industry, we're only as good as our worst performing operator. No different. So we all have incentive for the whole industry to perform better.

And so if some companies have better resources than others, we have those best practices out there that we can help each other with. And that's obviously an effort that API and ALP will have ongoing.

CHAIRPERSON FORD: Thank you. Jeff?

MR. WIESE: Just a kind of a closing comment, in case anybody has anything. Okay, I just want to close by further addressing Chuck's point.

You know, you asked a question, which I apologize, I didn't answer. You know, performance, prescriptive, that sort of thing? Pardon me.

A lot of the management systems stuff we're going to talk about, you'll find that's very performance based language. But there's a clear role for prescription within that.

You can't just have one or the other. You know, I'm of a firm opinion that

it's really the proper blend of both that gets you there.

SMS and the performance level stuff will describe the overall system and the components, you know, and how they relate and that they need to exist.

And then at certain places, we'll have to decide. And I think with the discussions here and elsewhere, which parts of it really, you know, you just can't risk falling below that. That has to be prescribed.

So I think it really will, even in the end. Ours is now. You know, we filed a report with Congress years ago on integrity management that said the risk management demonstration program which preceded all this stuff was, at the time, the thought was well, why don't we substitute a good risk management program for the code?

You know, clearly we decided at the end we reported back to Congress, that's

not going to happen. You know, you're going to have a combination of those two things in order to get where you need to go.

So it's, you know, the balance of those things to reflect what Linda's said, that all these systems, all these operators as we go out and look at them, they're all different.

You now, they're dealing with different variables, different kinds of equipment, different environments, different histories, you know, different people.

There's room for people to customize to fit their system. But you know, tomorrow's a good discussion as well because you know, we're not shy about using enforcement.

You know, if it's a bad operator, we'll be glad to do that. In fact, just because somebody gets enforcement doesn't mean they're a bad operator.

I've rarely met anyone, including

you know, myself who hits on all bases. You know, some are really good and most of them, but it's quite possible for somebody to get a violation, still be a good operator.

You know, so we need to keep working on that, because I'm all for driving bad operators out of the business. They make my life difficult.

They make the industry's life difficult. So keep that in mind as we talk about enforcement tomorrow. We might need your help.

CHAIRPERSON FORD: Mr. Denton, are you --

MR. DENTON: That's it, thanks.

CHAIRPERSON FORD: If there are no other questions, thank you Linda and Larry Shelton. Jeff, do you want to close us out?

MR. WIESE: I will by thanking you, first of all. And I hope you're with us tomorrow.

CHAIRPERSON FORD: Yes, I'll be

here.

MR. WIESE: Okay, very good. Yes, we aren't going to say goodbye then until tomorrow night.

CHAIRPERSON FORD: Okay.

MR. WIESE: I appreciate your help again, once more. You're always very gracious with your time and efforts on our part. I very much appreciate it.

Thank the members of the committee. We're letting you off a little early today. It's a light day, it's just a briefing day.

Tomorrow we have a couple of votes. Those are always more interesting days, as you know. You've been here.

CHAIRPERSON FORD: Right.

MR. WIESE: So thank you for your time today, and we'll look forward. Are we at 9:00 a.m.? You can tell that John's not an engineer. He'll start meetings at 9:00.

You know, we're all sitting around

having our third cup of coffee, wondering when we're going to get going by then. All right, thank you all.

CHAIRPERSON FORD: Thank you.

(Whereupon, the meeting in the above-entitled matter was concluded at 3:33 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Liquid Pipeline Advisory Committee

Before: Pipeline and Hazardous Materials Safety Admin.

Date: 12-11-12

Place: Alexandria, VA

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R. Gross

Court Reporter