U.S. DEPARTMENT OF TRANSPORTATION
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PIPELINE AND HAZARDOUS MATERIALS
SAFETY ADMINISTRATION
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GAS PIPELINE ADVISORY COMMITTEE
TECHNICAL PIPELINE SAFETY
STANDARDS COMMITTEE
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THURSDAY
DECEMBER 13, 2012

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The Advisory Committee met in the Edison Room at the Alexandria Westin, 400 Courthouse Square, Alexandria, Virginia, at 9:00 a.m., the Honorable Wayne Gardner, Committee Chairperson, presiding.

PRESENT
WAYNE GARDNER, Chairperson
JEFF WIESE, Associate Administrator for Pipeline Safety
DENISE M. BEACH, National Fire Protection Association
MICHAEL BELLMAN, City of Richmond

RICHARD E. FEIGEL, Hartford Steam Boiler
SUSAN L. FLECK, National Grid
GERALD P. ROSENDAHL, Minnesota Department of Public Safety
DONALD J. STURSMA, Iowa Utilities Board
RICHARD H. WORSINGER, City of Rocky Mount
JEFF C. WRIGHT, Federal Energy Regulatory Commission
CHAD J. ZAMARIN, NiSource Gas Transmission & Storage

ALSO PRESENT

TIMOTHY BUTTERS

LINDA DAUGHERTY

JOHN GALE

SAM HALL

MAX KIEBA

PATRICK LANDON

ALAN MAYBERRY

DANA REGISTER

CAMERON SATTERTHWAITE

CHERYL WHETSEL

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

(9:04 a.m.)

MR. WIESE: Good morning, everyone. Hope you had a good time last night. Everybody probably slept well. Couple people told me they were actually tired when they went back to their room. Good. We like to work people; get our money's worth out here. After all, we're paying so much to have most of you here, right?

We'll start the official meeting in just a second. I got a couple quick reminders and just a welcoming, opening comments. Today is a meeting of the Gas Pipeline Advisory Committee, formerly known as the Technical Pipeline Safety Standards Committee, TPSSC.

Today we're going to have the privilege of serving with Commissioner Wayne Gardner, who will be taking over in just one second, but thought that it might be appropriate, before we begin the official part

of the meeting, to just do a round of introductions. It also allows us to get it on the record.

So why don't we start with Gene and we'll just run around the table really quickly and introduce ourselves, including the PHMSA staff. Your mic.

DR. FEIGEL: I'm sorry.

MR. WIESE: I can hear you, Gene.

DR. FEIGEL: I'm Gene Feigel. I'm Vice President of Corporate Risk Analysis at the Hartford Steam Boiler Inspection and Insurance Company.

MR. STURSMA: Don Stursma, Highway Utilities Board; Manager of Safety and Engineering there.

MR. ROSENDAHL: Jerry Rosendahl, Minnesota State Fire Marshall; public.

MS. BEACH: Denise Beach, NFPA.

MS. WHETSEL: Cheryl Whetsel, PHMSA.

CHAIRPERSON GARDNER: Wayne

Gardner, Pennsylvania Public Utility Commission.

MR. WIESE: Jeff Wiese, Office of Pipeline Safety.

MS. REGISTER: Dana Register, PHMSA.

MR. GALE: John Gale, PHMSA.

MR. BELLMAN: Mike Bellman, City of Richmond Municipal Gas.

MS. FLECK: Sue Fleck, National Grid.

MR. WRIGHT: Jeff Wright, Federal Energy Regulatory Commission.

MR. WORSINGER: Rich Worsinger, City of Rocky Mount, North Carolina.

MR. ZAMARIN: Chad Zamarin, NiSource Gas Transmission and Storage, NiSource Midstream Services.

MR. WIESE: Great. Thank you, everyone. Just a couple of quick housekeeping notes and then we'll move into the meeting. Today is going to be an easier day than

yesterday; certainly. Although, you know, I'm pleased to say that I talked to some of the members offline and they actually said, you know, I was sort of apologizing because some people take it painful, and they said, no, no, I like that, you know?

A lot of good discussion, could be painful how much time we spent on a couple of issues, and some procedural things that we need to work out before we do another vote, but that said, I thought there was a lot of good discussion. I want to thank you for your participation yesterday.

Today, we will just have a series of briefings. You can see these on -- these are really, as I was trying to explain, with the exception of fitness for service, and I think that, as I explained previously, relates to this broader effort about integrity management 2.0.

The other matters that we're going to be getting briefed on today really relate

to Congressional mandates. We're moving through that list of 37 mandates very slowly to check them off and get them done. We want to approach re-authorization in three year's time, you know, with most of that done. It's not good to walk into that with a lot of undone mandates.

I will remind you that the meeting today is being recorded, so when you have comments, and we encourage you, please jump in, we want to hear from you, that's the purpose of meeting with you, to just say your name, you know, so that the court reporter can get that in the transcript that he is preparing for us, will be accurately attributed to you.

We may be doing live tweeting today. Darius is back there, so I'm not sure how that's all working out. As I said, it's new for me, being tweeted as I speak. I'll have to be more careful in the future.

The record from the meeting will

be posted in the docket at regulations.gov. The docket number is PHMSA-2009-0203. The last few things, administrative, for comfort, I will say, we'll do a break at some point. If you want to get coffee, if you haven't figured out by now, we won't be providing that, but there is a Starbucks around the corner as well as the restaurant in the hotel.

Restrooms, I think you know by now, they're around that direction on both sides of the hall, and fire exits would be down the hall, down the stairs, and out the door, maybe convene in the park. So I think with that, I will turn to Commissioner Gardner and call the meeting to order.

CHAIRPERSON GARDNER: Good morning, everyone. And thank you all for actually coming back. I'm really surprised to see so many of us here today because it was somewhat painful. And I'll guarantee you today that there will be no need at all for anyone to find their Robert's Rules.

As Jeff has indicated, we have more of an informative agenda for today and I hope no debate on the presentations that are being made to us. I should note, okay, first of all, I'm told here that I need to officially call this meeting to order.

My name is Wayne Gardner and I am a Commissioner with the Pennsylvania Public Utility Commission. A few additional housekeeping items that I'm sure you're all aware of, and that is, turn off your cellphones. If you wish to speak, use your name card, of course, state your name before you speak for the record, and that'll be about it.

If you have any copies of statements that you would like to be introduced into the record, please make sure that Cheryl gets it, Cheryl is right here, so that we can get a copy to the court reporter. And with that, I think we can move right to Agenda Item 1 and that would be a presentation

by Max Kieba and Pat Landon.

MR. KIEBA: Thanks, everyone. Is this okay with you? Okay. Making sure you can hear. I am Max Kieba with PHMSA's Pipeline Office of Engineering and Research. I will just be giving you an update of where we are with the leak study, and then after me will be Pat Landon on valves.

This is the same presentation that the liquid committee got, so there may be some liquid topics in here. I'll try to keep this one, obviously, focused on gas. Next slide, please. So a little bit about the outline of where I'm going. A little bit of background drivers of the study; where these really came from. A little bit about our other initiative this year.

A lot of focus has kind of been on this study, but I think we did a lot of great things this year. I think everyone, really, public, industry, government, got together on some of these initiatives this year.

A little bit about scope of this particular study from Kiefner & Associates, Applus RTD. Summary of some of the comments we received from the draft report and also, some responses and changes that have been made to the report based on some of those comments.

And finally, some observations from Kiefner's perspective that were listed in the report. Next slide, please. Is this thing working or do I need to go on this side? Yes. So once again, I'd like to reiterate, so I think most people know who Kiefner is, in generally, but these are the folks that actually worked on this particular study.

David Shaw was the lead author of this effort. I think a lot may know David, but he has a lot of LDS, lead detection system, experience, 30 plus years in oil and gas, and also, Martin Phillips was the overall project manage of this effort, and many other team members they had, in particular, Ron Baker and Christine Mayernik did a lot on our

incident review portion of this study, and then also, other team members from Kiefner. There we go.

So a little bit about where these came from. One was certainly the Congressional mandate and this was focused on liquid, but the areas I highlighted there in bold are kind of the primary items of the scope, and particularly, we needed to do a technical analysis of leak detection systems, ability to detect ruptures and small leaks that are ongoing or intermittent, so we did look across the board at everything.

I should say Kiefner looked across the board at everything. Analysis of the technical, operation, and economic feasibility aspect. So again, that was the nature of the study.

These other areas that aren't highlighted, they are in a mandate. To an extent, Kiefner did look at them, but in our comment period, a lot of folks indicated,

which is probably true, the contractors shouldn't be going too much into that area. It kind of gets a little bit more into a policy arena, per se, but certainly they looked, to an extent, into those areas.

More directly related to gas, this was from San Bruno, but P1110 talks about natural gas transmission and distribution equipping our SCADA systems with tools to assist in recognizing and pinpointing leaks across the board. So again, from the gas side, this is more of the focus area of what was done.

So let's go back a little bit to earlier this year. We had a March workshop, improving pipeline leak detection system effectiveness, and it was designed to provide an open forum for, really, all of our stakeholders to get together. Very similar to most of our workshops.

I would say, overall, very good exchange of information, both on the

capabilities of LDS, let's talk about the positives, but also, let's also talk about the challenges, and I think everyone from different stakeholder groups brought some of those challenges forward.

We do have a meeting Web site, for those that aren't aware, and the summary report is out there, so you can certainly go out there for more information. The contractors were at that workshop and information from that workshop was also used for this study.

And also, at the same time, we actually did a public notice to get some input on the scope of the study. And in middle of July, July 18th, 19th, we had a research and development forum. We covered a whole range of topics, many topics, but among those, we did have a working group focused specifically on leaks; leak detection and mitigation.

Some of those gaps up there were identified by the working group as some

leading gaps that were out there. And again, generally based on consensus with who was there at the meetings. Contractor personnel were also at that meeting and I'll talk about some of these, but you might start seeing there's a common theme with all of these.

Now, we can agree or disagree with some certain aspects of individual efforts, but at the end of the day, and we'll talk about this at the end of my presentation, but it was good to see at least common themes that we all agree need to be addressed.

Now, how exactly they get addressed, we could all talk about that, but among those were reducing false alarms, improvements needed for both new and existing systems, the whole retrofit dilemma, what was said, and also, what's called Smart System development from the R&D forum.

And that's kind of like, can we add more sensors to the line in different spots, almost like a smart health check of

your system of sorts? And again, summary report presentations are out there.

And since then, we've had an R&D solicitation and what happens, we take that input from the R&D forum and then put them into an actual solicitation. So these are all the topics that did go out there with our announcement that went out earlier this year, very recently, pretty much in all those areas.

The solicitation is now closed. We are currently reviewing those white papers, but I will say, a fair amount, we got upwards of, I want to say, over 90 white papers total, at least over 20 of those were in leak detection specifically.

And let's put LDS into context because I will say, I keep getting questions, in general too, the contractors did as well, but so much focus on the technology, but conceptually, with LDS, it involves technology, people, environment, process, and procedures, right?

And there are multiple layers of defense intended at different aspects of these, so it's good and bad. Yes, it does make for a more complex system overall. Certainly, if you add the human element, it gets more complex. At the same time, we can't say it's overly complicated. You can design your overall system, understanding, if you focus too much on discrete elements, but not looking at the system as a whole, you might have issues.

But at the same time, it is definitely complicated. The whole, no one-size-fits-all, we've been saying all year, it is a true statement. And there are also multiple layers of defense, in general, and LDS specifically intended to help address these gaps.

So let's talk about the scope of the study that Kiefner did, or KAI is what I'll probably call it mostly, but they did a review of pipeline incidents. Let's just

learn something from the last three years based on the data, and they chose to do January 2010 through July 2012. That was what they chose for their review period.

They also looked at the technical feasibility aspects, namely, let's review currently installed and available LDS technologies, along with benefits, drawbacks, and retrofit applicability.

They also looked at the operational feasibility aspects. Let's review the current LDSs being used by the industry. A little bit about economic feasibility and we all know cost/benefit analysis can be sliced and diced in a number of different ways, there are a number of opinions out there, but Kiefner presented their take on it.

And they did a standards review. What standards are out there, both guidance and regulations that are out there, just again, what is the industry currently using or what's out there?

They did interviews with operators and technology suppliers that should be noted and it has been in comments that they only did a certain slice of the industry, but in their opinion, it was a good representation of it.

So we have this effort. We had an October 5th webinar and it was a public webinar, we presented the draft reports, and we had a public comment period through October 26th of this year. As part of that, we got -- well, nine individual commenters, or organizations, I should say, but many of them certainly had multiple comments.

Out of those comments, over 100 of those comments were considered technically substantive, directly related to the ports, and appropriate for some kind of response, and many were similar to one another. And from there, what's in my next slides are just a summary of some of those comments.

I'm not going to go over every single one of the 100, but I will go over a

general summary of that. And those comments are what resulted in a change to the draft report.

I'll have this link at the end, but all comments received, in their entirety, are also out there on the public Web site as well as the draft report.

So among those comments we got, the executive summary should briefly recap some of the observations, such as inserting the summary table from the incidents, understanding, I lost count, but it's upwards of close to a 300-page report total. So understanding, most people probably won't get past the executive summary, so we did move that table up just to, again, that's your snapshot of what goes into your report.

A number of commenters raised this issue, and particularly on the gas side, that there was some general statements at the top in a summary that certain aspects of leak detection requirements, regulations, in part

185 apply equally well to gas.

There's a lot of discussion in the report itself, and still is, on what exactly they mean, particularly from a simple SCADA CPM metering aspect of it, that there are some common principles between the two, but the authors agreed that, by itself as a statement, it could be misleading, so they did decide to take it out.

As a punchline of the summary, again, however, language also in the report that talks about some of the commonalities between these stays in there.

Some suggestions in general, just to remove, or I should say modify, some absolute language, such as immediate detection, to something more like quickly detect. Some more definitive statements like, well, this is more on the liquid side, but if refined products are liquids inside a pipeline, they will remain liquids, just changing that to usually.

And other what were considered fact statements that the contractors put out there. To make it more clear, it's in their opinion or in general. So they did make those changes. Here's just some examples, but they did agree with that.

There were some disagreements or errors that were pointed out with some of the case studies. In cases where it was pretty clear from the data submitted that there was an error in the report, those were changed. In other cases where, perhaps, some agreed or disagreed with the notion of what it was saying, or also, for instance, if it came in a supplemental report after that review period, those were not changed, because they were very clear, here's our review period.

There were some comments of missing references from the bibliography. Other references for the basis of some of the sensitivity levels they put in the report. The contractors did agree with that and they

added some language to update those references as well some new references in the report itself.

This next one is certainly relevant to this committee, potentially, and gas industry in general. There were comments that certain sections of the report implied they were addressing all gas systems, all leak detection systems, but in reality, they didn't go into a lot of detail, which were considered lower pressure systems, but particularly, I would call it more simple leak detection systems that don't involve some kind of SCADA or SCADA-like system.

So generally, if you just have some metering out there or flow meters that an individual is looking at it, particularly from some of your smaller systems, the contractors agreed that it's not directly addressed in that report, so they did acknowledge that.

So again, that was just a summary. There's several more comments we got in. A

document was developed that provides a summary of some of those comments and some of those responses. So from there, let's talk about some of the observations that came out of the KAI study.

I will say, in general, and they did break it out with these different segments, and some of their percentages are different, but for all segments, hazardous liquid gas transmission and gas distribution, from the incident review for that 30-month period, an emergency responder or member of the public was more likely to detect an incident or a release than, I should say, detect and identify a release, than air patrollers, if applicable, operator, ground crew, and contractors.

The next step is air patrol, operator, ground crew, and contractors were more likely to identify than a pipeline control or a control room. And finally, the last one, it is clear, at least from the data,

that pipeline control or a control room was the least like to detect and identify a release.

Some other observations, they, in their opinion, recommended best practices for leak detection for gas pipelines are lacking, as are best practices in general for external sensor-based leak detection.

They did point out, unlike most subsystems used on a pipeline, LDS does not necessarily have a nameplate certification, rate of performance measures, et cetera, universally across all pipelines. Yes, vendors will tell you, you know, what our sensor can do in our opinion, some other performance measures, but in general, there's not really a rated system like there might be for some other segments of components or aspects used on pipeline, which can be good or bad, right?

And again, they go into a little bit more detail on this in the report, but you

can't just take something off-the-shelf and assume it's automatically going to fit with your system. You do need some aspects of reviewing some of these to see if it'll work.

And in their opinion, there is no technical reason why several leak detection methods cannot be implemented at the same time. In fact, a basic engineering robust principle calls for at least two methods that rely on entirely different physical principles.

Many performance measures do present conflicting objectives. And this particular gets into a lot of concerns out there with false alarms. So, you know, leak detection systems that are highly sensitive to small amounts of loss of hydrocarbons. They are also naturally prone to false alarms.

At the same time, and it also talked in the report, there is some, again, engineering assessment that has to go in with your alarm methodologies; things like that.

In a cost/benefit analysis, again, they have a whole section of the report that goes into cost/benefit, different scenarios, but objectively, from their opinion, the largest cost element in any LDS is investment in personnel who understand, manage, and plan for all that within a pipeline company.

Any leak detection technology beyond the most simple systems does require some expertise to not only design for your system, but also implement it.

In their opinion, most recommended practices for internal LDS contain principles that are valuable for external systems as well. And once again, in their opinion, equivalent standards for external systems would be very useful.

And general bullets, certain standards and regulations review expand in several useful ways, including setting measurable performance standards for leak detection. We got this question on the liquid

committee, but what they're talking about there is they looked at the CSA Z662 standard in Canada.

In their opinion, they saw some other measurable performance standards. They also looked at, it's the German TRFL that also implemented upwards of six to seven different methods, and they also looked at a UKDTI standard that's primarily used for offshore, so that's kind of where they're going at, but again, in the report itself, it talks in more detail.

So once again, the draft final report and comments received by the comment deadline are available on the Web site. Kind of, where we are from here, we got that question on Tuesday. The final report is not out there. Jeff can certainly expand if needed, but the intention right now, or the belief, is it's likely that it won't go out publicly until it goes to Congress, because we do have to report to Congress, and after that

point, we anticipate the final report, based on comments, will go out publicly.

Another question that came up on Tuesday was, will there be another round of comments? And the answer is no. We're going to go to final report and that's where it's going to be. I believe that's it, at least on all the comments we got from Tuesday, so with that, I'll certainly take some questions.

CHAIRPERSON GARDNER: Could you --

MR. KIEBA: Yes, certainly. And this presentation is certainly publicly with the rest of them.

CHAIRPERSON GARDNER: And Max has some handouts that were made available so you can get it right off of there if your eyesight isn't that great; like mine. Is it in the handbook?

MS. WHETSEL: It's not in the handout, but I will send it.

CHAIRPERSON GARDNER: Okay.

MR. KIEBA: We printed some, I

don't know if we have enough, but we printed out some handouts with the slides too.

MR. WIESE: Wayne, actually, just a quick question to help Gene. I think these were posted already, weren't they?

MR. KIEBA: Yes.

MR. WIESE: So these are on the PHMSA Web site now.

MR. KIEBA: Oh, yes. The presentations, they're already out there on the Web site.

MR. WIESE: Yes. So I'm just trying to save Gene the time so you can --

MR. KIEBA: Yes, yes, they're all out there.

MR. WIESE: -- download them from the committee Web site.

CHAIRPERSON GARDNER: Thank you very much, Max, and we'll now open the floor for questions from the committee and once we've exhausted questions from the committee, we'll also take a couple from the public. By

the way, I have to be out of here at 12 o'clock.

MR. WIESE: We're with you on that one.

CHAIRPERSON GARDNER: All right. So we'll go first with Don.

MR. STURSMA: I'd just like you to describe what aerial systems were used for leak detection.

MR. KIEBA: What?

MR. STURSMA: Were they primarily visual or do they have some of these new infrared sensing devices, you know, just what was examined in terms of the aerial detection.

MR. KIEBA: Oh, they used a number. I mean, it's all detailed in the report, but yes, they used a number of different concepts they looked at; certainly. And worthy of pointing out, there are certainly a number of efforts underway. To an extent, they talked about it in the report, but also, there's a lot of research going on.

That was talked a lot about in our R&D forum too about some of the field testing that has been done on these, but also, different platforms that are continuing to improve upon, understanding, again, this is from the R&D forum, but we're not there yet, but some work continues need to be done.

A lot of people mentioned PRCI is doing a lot of work in that area. It came up in R&D forum too. Another area, just continues to work on some of those platforms and the different sensors used.

CHAIRPERSON GARDNER: Okay. So now we're going to go with Jeff and then Sue.

DR. FEIGEL: One final question?

CHAIRPERSON GARDNER: Sure.

DR. FEIGEL: I apologize. I admit, having not read Kiefner's report, but I'm curious about what kind of general analytical structure they used for probability of detection. I mean, you've got all kinds of different methods and different empirical

methods of measuring those. I mean, there's got to be some way of, sort of, normalizing all this, if you will, and just curious what they did.

MR. KIEBA: There's probably about a 100 pages worth of -- yes, and I will say, they did point out, in cases where they did do an analysis, the basis of their analysis methods used. They did acknowledge some limitations that, I will say, a number of comments, people wanted them to go even further to looking into some of these, and they acknowledge, in the time period available, the resources available, they could only go so far, but they used a number of methods used.

And they went as far, I would say, as just, you know, here are the methods, here's, generally, what's out there and currently being used. They didn't go, obviously, to another level, maybe if people wanted, that would actually verify some of

these methods or the actual performance of these, but again, it was just primarily based on the facts and the data is what they went with.

DR. FEIGEL: I'll just make one comment, and I don't purport to be an expert in this, but we've looked a lot at what the medical researchers and field have done in terms of probability of detection. And I think, granted, it's a totally different domain, but my personal opinion is that they're well-ahead of most of the engineering studies in this.

And some cross-disciplinary looks at some of this kind of stuff, at some point in the future, might be useful.

MR. KIEBA: Yes, and that's a little outside the scope of this specific report, but I can also say, those things came up in our R&D forum. We had folks from NASA there, or contractors from NASA, talk about some of the other things out there and I think

there was a general acknowledgment of folks that were at the R&D forum that say, yes, there might be some benefit to looking at that, but also at the same time, you have to look at the reasonability of costs, reliability, you know, retrofitting to your system.

Yes, the core technologies themselves, you know, are good, but, you know, the operational aspects that go into pipeline systems, things like that, can differ, but certainly, in the R&D forum, that was discussed for sure.

DR. FEIGEL: Well, my point was not so much directed at any particular technical application, it's sort of the analytical structure about how we're judging the reliability and accuracy of this; that was my point.

CHAIRPERSON GARDNER: Again, we're going to move on and you'll be able to take that up with a sidebar with Max. Jeff.

MR. WRIGHT: Thank you. Jeff Wright from FERC. I had just, maybe, a couple thoughts and maybe like Gene, this may get out of the scope of this study, but the leak detection systems, they work with compressor stations as well?

MR. KIEBA: I would say that's a fair comment. I would say, in general, understanding there are different aspects for a compressor station, two different aspects along your line, but yes.

MR. WRIGHT: I mean, I would say, outside of a catastrophic accident, your natural leaks are right at the seals of compressor stations and this is where I get into the point, it may be outside the scope to this study, but maybe, somehow, it needs to be looked at. I know there are better seals out there, if you will, between the compressor stations and pipes, and that is, you know, the synergy between the environmental arena where pure methane is your worst greenhouse gas.

The vast majority of it comes from leaks at compressor stations that are naturally occurring because of the quality of the seals. So my thought was, going forward, and like I said, maybe not in the scope of this study, but somewhere else, if there's any thought about requiring a more stringent standard for seals at compressor stations. That could eliminate a lot of what they call fugitive methane.

MR. KIEBA: Yes, I could say, what was discussed in this study and looked at was, they didn't really go to the level of why did the leak occur. If a leak occurs, let's detect it or how can you detect it effectively?

MR. WRIGHT: I mean, so this is more of a reactionary kind of, if something happens, we know where it happened, or if it's on the verge of happening? I guess my thoughts were more on a preventive kind of scale before you get to that point.

MR. WIESE: Just to help Max out for two seconds, yours is a good idea. Well, I will admit that we were being slavishly responsive to the Hill and because there were 37 of them, we really didn't -- very much at it, we're just taking care of their mandate, and that was it, take a look at the technologies.

MS. FLECK: Thank you. Sue Fleck from National Grid representing distribution companies. First off, I wanted to say thank you. AGA filed complaints, or filed comments, did I say that? You know, it's early.

MR. KIEBA: When it's AGA and others, it's usually passionate discussion. That's the word I use; passionate discussion.

MS. FLECK: So AGA filed passionate discussion points on October 26th, the gist of which was all about how we didn't believe there was enough distribution company involvement in the study, and as a result, you know, the distribution issues really didn't

apply, and it sounds like you've put some text in there to make that point so it covers most of the issues.

Now, if we could go to Slide 15, I did have one other observation that goes beyond what we talked about in the letter on the 26th.

MR. KIEBA: Dana, could you help me out; Slide 15? Oh, there we go.

MS. FLECK: There we go.

MR. KIEBA: Thank you. Slide 15. All right.

MS. FLECK: Okay. And is this the one? Yes, this is where you make some conclusions based on analysis you've done on, I assume, serious incidents that have been reported.

MR. KIEBA: And let's be clear, they made observations. They didn't go as far as making conclusions, recommendations, but observations.

MS. FLECK: Okay. Observations.

MR. KIEBA: Yes, based on the data that was submitted.

MS. FLECK: And I make two comments here. The first off is, this is precisely why we odorize gas so that people notice leaks and report them, and they get fixed, so this kind of validates the whole reason for odorization, which is a good thing, but it is a little bit misleading because, if you only take a look at, you know, the incidents that have been reported, you're kind of missing all the Grade-1 leaks that are found by company employees that are, you know, hazardous situations that could pose immediate hazard to public, and a lot of those are found by company employees.

So if you looked at all the Grade-1 leaks along with the reports that were, you know, reported in to DOT, you might have a different conclusion, you may not, but I think that's a body of data that's missing from this analysis. I think your people, your operator

ground crews, your air patrols, and your contractors are finding a lot of those Grade-1, you know, potentially serious hazard conditions, you know, right there on the ground.

MR. KIEBA: Yes, I think that's a good point in general. And even, I would say, the liquid, if I'm not mistaken, API/AOPL also said, you know, there's a bunch of other datasets out there that could potentially be used. And I will say, the authors did acknowledge that point. We would have loved to have a huge dataset, but at the same time, understanding limited nature of the scope and the time period they had to conduct it.

But those comments are noted, certainly noted out there publicly, and are presented.

MR. WIESE: I just wanted to add, one of the other points of discussion that came up in relation to this slide, so I actually thought somebody was going to ask it,

it's a logical point is, well, it seemed like that to some, and I think not to most of us who do this, it seems counterintuitive, but in fact, it's extremely intuitive.

The vast majority of leaks are very small. So in the distribution end, it's going to be odor that's going to pick it up, right? The control room is only going to pick it up when it's catastrophic, you know, or very large, you know, I won't say catastrophic, but very large.

The sensitivity of that equipment is just not going to pick up these smaller leaks, so your point about all the ones that are being picked up by ground crews and contractors, you know, is highly relevant. I think if an when we get into a regulatory posture on things like this, I think we will have to do more on that stuff.

MS. FLECK: Because, basically, if you think about it, that Grade-1 leak that's picked up by the company crew, it might just

be a matter of a few moments before that becomes a reportable incident if it wasn't found. So, you know, it can just be a little time frame thing. So you're getting all this great data from your walking surveys and your mobile surveys.

And for a fully comprehensive look at leak detection systems, you're going to need to factor that in at some point, which, it sounds like you are. You have that planned.

MR. WIESE: And I'm thinking that since AGA was so passionate about their comments, they'd be glad to gather that data for us, right?

MS. FLECK: I see Christina taking notes.

MR. WIESE: She's shaking her head, yes, love to do that.

MR. KIEBA: And I do want to point out, APGA was also passionate in their comments. So, yes, they kind of went this

area and also into their stakeholders as well. And I will say, in general, it was appreciative, understanding, you had two big reports, 300 pages each, that you had to review in 15 days. So, in general, I would say it's appreciative that people did make the effort to comment on these and give a lot of comments.

There was, certainly, a lot of resources involved with attempting to do that. A lot of folks said they would love to even comment further and provide more analysis, but to the extent they did, it was definitely appreciative from our standpoint.

CHAIRPERSON GARDNER: Thank you. Rich.

MR. WORSINGER: Rich Worsinger, Rocky Mount. Jeff, I just want to acknowledge your realization that, on distribution, a SCADA system is not going to be able to detect most leaks. And I just want to acknowledge that, that you obviously have a grasp of this

and that is important to point out.

Rocky Mount has 500 miles of distribution pipe and we probably have about ten pressure monitoring points. We're not going to detect that dig-in that results in a cut 2-inch line. You're just not going to see it. You would need pressure monitoring points, probably, on every street, and that's just, obviously, not practical or feasible, but kudos to you.

CHAIRPERSON GARDNER: Other questions from the committee? There being no further questions from the committee, we will open the floor for questions from the public. And if there are no --

MR. KIEBA: Oh, sorry. I got the mic.

MR. WIESE: Keep it.

MR. KIEBA: I'm used to doing both anyways, so here you go. Any comments?

MR. BENNETT: Just one quick question and I actually wrote some of the

comments and we did complain about a few things, so Sue was pretty accurate. Phil Bennett with the American Gas Association and really, one quick question.

The report was long, very comprehensive, looked at transmission, a little bit of distribution, a lot of liquids, the Pipeline Safety Act actually ordered, well, mandated, that DOT look at, let me read it to be accurate, "Update a report on leak detection systems utilized by operators of hazardous liquid pipelines and transportation related to flow lines."

So Congress was really just looking at liquid lines. They weren't looking at other types of pipelines. When you write your report to Congress, are you going to include all liquid sectors, because that was part of our concern. It was very confusing in the report because the sectors are very different when you look at transmission, distribution, and liquids.

They have completely different detection systems. Is PHMSA going to give Congress information that they didn't ask for or are you going to stick strictly to liquid lines like Congress asked?

MR. WIESE: Phil, I had opening in my counsel's office, if you'd like to, but as we brought up the NTSB recommendations, say, since Congress gave us 37 plus mandates, not to mention all these things from the NTSB, and no money, by the way, we took our liberty to join a couple of related things together to try to dispose of them.

We just aren't going to get through them if we don't combine some of these. So your comment about gathering lines is probably relevant, but, you know, we certainly have the discretion to combine these, which is what we chose to do. There's only so much we're going to get done if we don't, you know, add some things together.

So I'm not trying to be a smart

alec, it's just Phil, and I usually give him a hard time. So thanks, Phil.

CHAIRPERSON GARDNER: If there are no further questions from the public, then we will move on to Agenda Item 2, and that would be an update and briefing from Steve Fisher.

MR. WIESE: I think we're going to do Pat Landon on the valve study.

CHAIRPERSON GARDNER: All right. Who gave me this agenda?

MR. WIESE: It does say --

CHAIRPERSON GARDNER: Okay, Pat. Sorry.

MR. LANDON: Thank you, Chairman. My name is Pat Landon and today I'll be briefing the Oak Ridge National Laboratory Automatic Shutdown and Remote Control Valve Study. I'd like to thank the Gas Pipeline Advisory Committee for allowing time for a briefing on Oak Ridge's study.

In March 2012, PHMSA contracted Oak Ridge to conduct the Automatic Shutdown

and Remote Control Valve Study that assessed the effectiveness of blocked valve closure swiftness in mitigating the consequences of --

CHAIRPERSON GARDNER: Pat, excuse me a second.

MR. LANDON: Sure.

CHAIRPERSON GARDNER: For the record, we're still on Agenda Item 1, the second half of Agenda Item 1, Valve Study. Thank you.

MR. LANDON: So the study was to address the effectiveness of blocked valve closure and swiftness in mitigating consequences of natural gas and hazardous liquid transmission pipeline releases on the public and environmental safety.

Oak Ridge's study evaluated the technical, operational, and economic feasibility, and potential cost benefits of installing ASVs and RCVs in newly-constructed and fully-replaced transmission pipeline. Let's see, I got the clicker.

Who is Oak Ridge National Laboratory? Oak Ridge was established in 1943 as an integral part of the Manhattan Project. Today, Oak Ridge is the Department of Energy's largest science and energy laboratory who is managed by a limited liability partnership between the University of Texas and Battelle Memorial Institute, known as UT-Battelle, consists of 4400 staff, of that staff, 1600 are scientists and engineers.

It has an annual budget of $1.65 billion and is home to several of the world's top supercomputers. Oak Ridge operates nine user facilities that draw thousands of research scientists and visitors each year. To that impact of this study were the National Center of Computational Sciences as well as the National Transportation Research Center.

Background to the study, a Congressional mandate from the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 Section 4 requires that the

Department of Transportation require, by regulation, the use of automatic or remotely controlled shutoff valves, or equivalent technology, where it is economically, technically, and operationally feasible on hazardous liquid and natural gas transmission facilities, newly-constructed or entirely replaced.

The Act also mandates that the Government Accountability Office conduct a study on the ability of transmission pipeline facility operators to respond to a release from pipeline segments located within a high consequence area.

The GAO must consider the swiftness of leak detection and pipeline shutdown capabilities, the location of the nearest response personnel, cost, risk, and benefits of installing ASVs and RCVs.

Let's see, the NTSB in its accident report for the San Bruno accident made recommendation P1111, which direct PHMSA

to amend Title 49 CFR 192.935(c) to directly require the automatic valves, or remote control valves, be installed in high-consequence areas, Class-III and Class-IV locations, and spaced at intervals that consider population.

On March 28th, 2012, the workshop understanding the application of automatic control and remote control valves was conducted to discuss the practical considerations involved with installing, operating, and maintaining automatic and remote control valves by the public, federal state regulators, agencies, and transmission -- - oh, discussion with the federal and state agencies as well as the public and transmission pipeline operators.

Identify constraints with deploying these types of systems on existing versus newly-constructed pipelines and to collect input that would help guide the Oak Ridge study. Presentation, transcript of the

workshop, and a summary report can be found on this Web site; on the meeting Web site.

The scope of the Oak Ridge national study was published to the federal register for comments, and you can find that on regulations.gov under the announcement, PHMSA 2012-0021.

On July 18th and 19th, 2012, government and industry pipeline research and development, R&D forum, was conducted. The working group that worked on valves found that automatic valve reliability poses a potential technology gap. The project has sought to study more accurate line break detection systems to minimize unintended valve closures.

The R&D forum report out can be found on this Web site as well, and the research announcement can be found on the R&D Web site. Solicitation for the white papers has closed and the white papers are being reviewed.

On October 5th, 2012, Oak Ridge

presented, in a webinar, their draft for the study of requirements of automatic and remote-controlled shutoff valves on hazardous liquids and natural gas pipelines with respect to public and environmental safety.

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

Oak Ridge draft, final report and submitted comments can be found on the October 5th meeting site. Now, for the comments. One of the first comments was, inadvertent valve closures were not addressed Oak Ridge's study. Oak Ridge changed one of the sections of the studies, which now discusses these consequences.

For the hazardous liquid side, we'll discuss this since we're discussing both

sides of transmission pipelines, the hazardous liquid cases, 7 and 8, as well as the 90-minute shutdown for 8A were an unrealistic number. The modeling was changed by Oak Ridge to that of what is required of liquid operators in 194.105 as well as the volume calculation of 194.105(b)(1).

Use of the word leak should be changed to rupture where high rates of mass release associated with pipeline failure are appropriate. Oak Ridge made this clarification within Section 1.3 of their report. And as Max has indicated in his last study, the use of the word detect should expand beyond a CPM or SCADA system. Oak Ridge did change that part of the study to be more comprehensive of all types of leak detection.

Let's see, the next slide. Did I go backwards? Right. Flow rate on hazardous lines can exceed normal pipeline flow. The computational model was also changed to

address this. And then the last one that is more relevant to this session, the proposed hazardous model is based on an extremely conservative and inappropriate approach to pipeline outflow estimates and fire radiation model that ignored significant source of conservatism inherent in using a point-source radiation model.

Oak Ridge made a response, and a change to the study as well, to address this comment, and several similar comments. And the model used in the Oak Ridge study to estimate pipeline outflow and fire radiation for natural gas pipeline releases were developed as a tool 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 intensity resulting from fire produced

by combustion of the release of natural gases are discussed within Oak Ridge's study.

These models are not intended to be an exact solution to these complex engineering problems. As for the study, Oak Ridge categorized the potential effects of unintended releases from natural gas and hazardous liquid pipelines on public and environmental safety as personal injuries and fatalities, property damage and environmental impacts, the scope and magnitude of these effects depend on the type and the amount of product released, the exact sequence of the event, and the site-specific factors, such as separation distance between an individual or building, and the release point, building type and construction, terrain features, and atmospheric conditions.

Oak Ridge's study assessed the effectiveness of blocked valve closure swiftness in mitigating the consequence of natural gas and hazardous liquid pipeline

releases on public and environmental safety. Rapid blocked valve closure was evaluated on gas transmission lines with ignition of the product, hazardous liquid transmission lines with ignition of the product, and hazardous liquid transmission lines without ignition of the products.

The technical, operational, and economic feasibility, and potential cost/benefit of ASVs and RCVs in newly-constructed and full-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 on oil was used to model response time for hazardous liquid transmission lines without ignition.

The scope of Oak Ridge's study was limited to only consider worst-case pipeline release scenarios and HCAs involving guillotine breaks rather than other more

common breaks, such as punctures and through-wall cracks.

Although ignition of the released product following a rupture is not ensured, Oak Ridge's study only modeled release scenarios for natural gas and hazardous liquid transmission pipelines that result in an immediate ignition of the released product at the break location.

Oak Ridge's study observations; hypothetical pipeline releases studied show that ASVs and RCV installations in newly-constructed and fully-replaced gas and transmission 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 into the environment, decreasing the total volume of the released product reduces overall

impacts on public and environmental safety, installing ASVs and RCVs can potentially be an effective strategy to mitigate consequences of unintended pipeline releases.

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 responders 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.

Similar to this, the avoided cost of socioeconomic and environmental damage for

hazardous liquid pipeline releases without ignition increase as time required to isolate the damaged pipeline segment decreases. The modeling is dependent on a case-by-case analysis of each transmission pipeline system due to the complexity location, response capability, pipeline configuration, and resources.

Summarize the briefing, the Oak Ridge study was commissioned on March 2012 by PHMSA to address Congressional mandates, recommendations from the NTSB, inputs from valve and 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 RCV installation on newly-constructed, fully-replaced, gas and liquid transmission pipelines are technically,

operationally, and economically feasible, and provide a positive cost/benefit in a case-by-base basis. Thank you. Now I'll take questions.

CHAIRPERSON GARDNER: Thank you very much, Pat.

MR. LANDON: Thank you.

CHAIRPERSON GARDNER: We'll now open the floor for questions from the committee. Don.

MR. STURSMA: Don Stursma, Iowa, setting aside, for a moment, the P.R. value of how long it takes to get the gas shutoff, I'm trying to remember the case, but I remember seeing some recent filings, or articles, that contend that, for natural gas, the vast majority of damage occurs in the first few minutes and the incremental benefits of a quick shutoff are pretty minor because the damage is, basically, already done.

Did this study examine that contention?

MR. LANDON: Oak Ridge, in their study, did take into that consideration and there have been different numbers thrown around, but the most familiar one is, within 30 seconds, all damage is seen, or potentially seen, at a gas release.

In reviewing the previous work that had determined this number, as well as this statement, Oak Ridge modeled that and looked at radiant heat flux intensities and tried to determine, is there a potential benefit to having first responders get in after that initial instantaneous radiant heat flux?

And within the study, it does show that they are able to mitigate some of that as long as certain conditions are met.

MR. STURSMA: I had a second question too, and that is, did I understand correctly that for liquid pipelines where ignition occurs, it's assumed that ignition occurs almost immediately upon rupture?

MR. LANDON: That was part of their scope in the study.

MR. STURSMA: Okay. I guess I point out, that's not necessarily a realistic assumption. I know we've had instances where, you know, basically a propane leak filled up a small valley with, you know, propane gas, which subsequently ignited. We've had, like, gasoline leaks where the gasoline runs downhill, pools up in places, and again, does not ignite immediately, so I'm not certain if basing a study on the assumption that it ignites immediately reflects full reality.

MR. LANDON: Part of the study, and we'd have to look into it, but it was modeled after a propane release and pooling models were used as part of the analysis.

CHAIRPERSON GARDNER: Sue.

MS. FLECK: Thank you. Sue Fleck, National Grid, representing the AGA's comments. Similarly, to my comments on the last study, AGA filed extensive comments on

October 26th, and I believe they're in the record. I had a few questions. I guess the first one is, is there any acknowledgment within this report of the other studies that disagree with the conclusion that this is technically, operationally, and economically feasible because the other studies didn't come to that conclusion. They came to the conclusion that they weren't.

And my second question is, have you taken into consideration, and I don't see it anywhere in here, the bits of transmission within distribution systems, within distribution companies, where there may be small sections of transmission main, what's classified as transmission main, and how the imposition of putting these valves in those systems would create a lot of problems for the distribution companies to be able to deliver product to their customers.

The issues are very different because these systems are fully-integrated and

you'd have more customer outages and supply interruptions to hospitals and, you know, critical care facilities, and those kind of things. I just want to know if that was considered different from the, you know, long-line gas transmission pipelines?

MR. LANDON: Okay. To answer the second question first is, the scope of the study was very broad. There were some considerations, but not to the specific detail of modeling distribution systems within the study. It was to a transmission pipeline and certain parameters for release.

And the review of previous studies was conducted by Oak Ridge and they were incorporated into the report, but there was not a point contrast between the past research, but the researchers at Oak Ridge did consider previous reports and there are parts of those reports that were adopted into the study.

CHAIRPERSON GARDNER: Jeff, before

you jump in, I'd like to kind of add on to Sue's question if I can, because being responsible for natural gas distribution companies, I know that that was probably beyond the scope of the Congressional mandate, but the high-impact areas tend to be around the gas distribution companies, and is there some way that this study can either be extended to incorporate more of the natural gas distribution companies or do we need to petition, perhaps, to have the study expanded to include more of the natural gas distribution companies?

MR. WIESE: Actually, I'll be honest with you, I really don't remember, I can consult with Phil on the exact wording of the mandate. You know, I don't remember. I know that the -- sorry, Phil. It wouldn't be any fun if we didn't do this. So is the mandate up there? I think the focus on this one was really on transmission.

Now, transmission associated with

distribution, you know, operations, we understand that -- you know, about petitioning to expand it, you know, honestly, in this particular case, we will, again, slavishly address the mandate and kick this study out.

You know, whether additional work needs to be done, that I don't doubt, but I reiterate for people, this is not a regulatory proposal. It's just taking care of a mandate. If we get into a regulatory proposal, there will have to be additional work done, and certainly, around the impacts that Sue was highlighting, and other things.

I would also highlight though, and just the points I wanted to make in relation to both of yours and Don's questions about prior studies is, I'm trying to remember, actually, the one, it was like '99 or 2000, like that. I want to say it was New Jersey Institute of Technology. I can't remember.

I remember the one you're talking about, or whether it was Battelle or whomever,

I forget, but that was dealing with all, and I think in our mandate in this particular care, remember, is entirely on new or, you know, entirely replaced. We weren't trying to answer questions related to retrofitting pipelines.

So it was a really weird mandate when this came out. I remember, why did they give that to GAO, you know, and give this part to us? They probably would have been better to give the whole question to one or the other.

So clearly, your points are legitimate. And, Don, I always remembered that myself, you know, that issue that's mitigated a little bit by our experience with San Bruno, and some of these other places, where, you know, the inability to shut that down not only caused secondary damage, pretty widespread, but it prevented the emergency responders from getting in and doing anything.

So again, I don't think we're

trying to solve world hunger with this report. We're trying to address their mandate. I understand that it is a piece of evidence on the record, but it's not trying to solve all of those problems.

CHAIRPERSON GARDNER: Thank you, Jeff. Any other questions from the committee? Oh, sorry, Don.

MR. STURSMA: I'd just point out that, in San Bruno, we did an overlay of potential impact radius versus the area of damage, and it's pretty obvious that, in a situation like that where you have, you know, houses close together, damage spreads outside the potential impact radius, not because the PIR is wrong, but because fire spreads.

And to the extent that the damage within the potential impact radius, you know, probably occurred very quickly, you can argue about whether a faster shutoff would have done any good, but you can also agree that if first responders and fire departments had had better

access to the area, they may have been able to minimize the spread of the fire from inside that zone and reduce the number of damages that way.

So you're going to get that argument, you know, within the potential impact radius as a rough approximation, you know, how much good are you going to do, but if you can prevent the spread of fire outside of that area, then time becomes a factor.

CHAIRPERSON GARDNER: If there are no further comments from the committee, questions from the committee, then we'll open up the floor for questions from the AGA; I mean, the public.

MR. WIESE: They'll be subject to abuse of course.

MR. KUPREWICZ: Richard Kuprewicz. I'm part of various committees, including some serious discussions and information related to San Bruno, some of it I cannot discuss, others I can that are clearly in a public domain.

Let me be very clear here, the fire department that responded to the San Bruno event was roughly, approximately, 300 yards down the road, so they knew they had a problem, they just don't know why.

There wasn't a goddamn thing they could do in the many 90 minutes of that release to save lives. The new information provided in this report that I think that's relevant is that, for, I think, one of the most important first times, the input from the first responders that have to deal with these tragedies is being inputted into this process. We need to learn from it.

The CPC and their decision process as they're moving forward on the San Bruno learning tragedy, has mandated the requirement that first responders will be able to at least start triage within 30 minutes of a rupture, a gas transmission rupture. Once you set that parameter, whether you agree with that time, all kinds of physical things come into play.

And there's no doubt, if you'll play the videos on the San Bruno event, shutting off those valves, even if they manually had been closed, would have saved lives. You're welcome to plot where they recovered the parts of some of the victims in proximity to the rupture to understand that.

There's also been recent testimony and an ALGA decision that, based on the CPC driving of 30 minutes, that in her proposed decision, there'll be an additional 228 valves going into the PG&E gas systems on their transmission system. And the question is, that's a whole lot of valves, and if you knew more about the PG&E system, a lot of those valves aren't going to make any difference; a lot of those valves will make the difference.

One of the big battles going on in that state right now is whether or not they ought to be remote controlled or automatic. PG&E already has valves with automatic shutoff capability. Now, I think people, from a

perspective of the public, we ought to be able to work out a solution to this problem, and it's time. Anyway, sorry for the long speech.

CHAIRPERSON GARDNER: But I'd prefer if you told us how you really felt.

MR. KUPREWICZ: Thank you.

CHAIRPERSON GARDNER: Are there any other questions from the audience? I'm sorry, from the public. One of these days I'll get this whole Chairman thing right. If there are no further questions from the public, the committee will now move to Agenda Item 2, Emergency Response. Did I get it right? Okay. Steve Fisher.

MR. WIESE: It's going to be Sam Hall.

CHAIRPERSON GARDNER: It's going to be Sam?

MR. WIESE: Yes. Commissioner, can I ask that we let him break his presentation into three parts and then we'll stop and talk about each part ad nauseam at

the end.

MR. HALL: I understand that we nearly achieved the record for the longest discussion over a rulemaking, the longest vote discussion, so I hope that we won't go as long on this.

MR. WIESE: Yes, not all records are worth having.

CHAIRPERSON GARDNER: I did say we were going to leave at about noon?

MR. WIESE: Yes.

MR. HALL: Well, good morning. I'm Sam Hall. I work in program development in the Office of Pipeline Safety and my presentation this morning is on some efforts that we've undertaken to improve pipeline emergency response. This is for your information and it does not cover the entire breadth of what is being done in this field of trying to improve pipeline emergency response, so I would welcome input from the committee members on any topics that you think would be

of value to the rest of the committee.

Our goal at PHMSA in pipeline emergency response is to reduce the consequences of pipeline failures by strengthening the capabilities of local emergency responders, by institutionalizing pipeline awareness within the emergency response community, and in this sense, institutionalizing is a term of art that I think I use more than most perhaps.

The idea is to try to make sure that pipeline awareness is a matter of course for emergency responders, just as other issues are a matter of course for emergency responders; vehicle incidents, structure fires, tanker truck rollovers, you know, other hazmat incidents that are commonly encountered are a matter of course for emergency responders and pipeline incidents and pipeline awareness should also be a matter of course.

So our goals here are to try to institutionalize pipeline awareness in the

emergency response community. And to do that, we've undertaken a variety of initiatives and activities. The first, we really began with, and we continue with, educating ourselves and the emergency response community by hosting and participating in pipeline emergency response forums. I'll talk about some of that.

We're also looking to build partnerships. PHMSA is a small agency and certain cannot hope to address all of the challenges in pipeline emergency response alone. There are some excellent organizations that exist and that are represented in this committee and also in the liquid committee that can help us achieve our goals.

We're actively communicating with the emergency response community through presentations at conferences, we're hosting booths, we're writing articles for publication in emergency responder trade publications, magazines and so forth, and we are looking to

either create or enhance existing resources that can serve emergency responders, and specifically for pipeline emergency response.

So a bit about educating ourselves and the emergency response community. In September of 2011, Spectra Energy hosted an industry-sponsored forum, or meeting, in Houston where a lot of pipeline emergency response issues were discussed.

We followed that in December of 2011 with our own emergency response forum at PHMSA headquarters, and most recently, the organizers of the HOTZONE conference down in Houston helped us pull together a pipeline emergency response focus group, that was in October of 2012.

We've learned a lot through these forums, meetings, and I've listed two key lessons that we learned in these meetings here, certainly, this isn't all we've learned, but I think these are some key lessons learned.

First is that, we need to leverage existing resources to improve pipeline emergency response. We don't need to recreate the wheel when it comes to dealing with pipeline emergency response. There are resources and systems available, currently, to assist in dealing with other hazardous materials incidents. In many ways, pipeline emergencies are hazardous materials incidents.

A pipeline is a container for hazardous materials. Pipeline incidents have unique characteristics, certainly, we've talked about some of those in the previous presentation and the discussion, so it's not to say that pipelines are just like any other container, but they are another container for hazardous materials.

We can learn from what other industries have done and use, or leverage, the resources that other industries, like the chemical industry and other modes of transportation, currently use to help prepare

emergency responders to deal with pipeline incidents.

The other key lesson that we've learned is that we need to ensure continuity of the solutions that we recreate. We don't want to standup something that will take a lot of care and feeding, in a separate sense, from what is already being done. And again, my term of art there is institutionalize. We need to institutionalize pipeline safety just as other emergency response topics are institutionalized in the ER community.

A bit about building partnerships. I think these partnerships go a long way to institutionalizing pipeline emergencies or pipeline awareness within the emergency response community. The first of these is a longstanding partnership that we've had with the National Association of State Fire Marshals.

Since early-2000s, I believe the our cooperation started in 2002, we worked

together to produce a training curriculum called Pipeline Emergencies. It's a very comprehensive training curriculum. I'm sure you've all seen it or are at least aware of it. You can view it at www.pipelineemergencies.com.

We've also partnered, very recently, with the Transportation Community Awareness and Emergency Response Team, the acronym there is TRANSCAER. TRANSCAER is a voluntary national effort that helps communities prepare for hazardous materials transportation incidents.

Now, they've focused in the past on modes of transportation other than pipelines, they look at rail, they look at tanker trucks, and they are very interested in working on pipeline incidents and understanding how they can contribute to training emergency responders to deal with the pipeline incidents.

I believe we are referred to as a

partner representative there and TRANSCAER is actively seeking pipeline operators to serve on both their national task group and also as state and regional coordinators. Their Web site is transcaer.org, or .com, one or the other.

We are also considering how we might work with emergency management groups, the Emergency Management Institute, the National Emergency Management Association, to help drive emergency responders to better consider pipelines in their hazard mitigation plans at the local level.

If that happens, we really do stand a chance of institutionalizing pipeline emergency response at the local level. The National Fire Academy has also been a huge supporter of our efforts and stands ready to help deliver training and communications to the emergency responders that they serve all across the country.

We've stood up a pipeline

emergency response working group. I'll show a slide on that here in a minute, and talk more about that, and we've also conducted a couple of pilot projects in the State of Georgia and the State of Virginia, that I'll talk about in more detail in the coming slides.

The Pipeline Emergency Response Working Group was stood up in June of 2012. The goals of the group are to, they're listed here; serve as a platform and a voice for pipeline industry and emergency responders on a strategic level, at a national level, again, the goal being to institutionalize pipeline awareness in the emergency response community; serve as a platform for collaboration on identifying and facilitating solutions, how can we get this done?

A lot of folks on that team, you'll see a list in a moment, they're plugged into every organization that stands a chance of contributing to this effort, so I think

there's a real opportunity there for that collaboration.

One item that we want to focus on is creating an inventory of existing resources that can be used to help institutionalize pipelines in the emergency response community. So we know that we need to leverage existing resources. What are those resources and which ones can best serve our mutual goals?

And then, of course, we want to address gaps in those resources and see how we can update those to better serve pipeline emergency response. Here are the members of the Emergency Response Working Group. We have every representation from the pipeline industry, from emergency responders, and from government.

I want to mention that, Jerry Rosendahl, who's on this committee, is a member of the working group, Lanny Armstrong, who is on the liquids committee, is a member of the working group, and I did also bold

Larry Jhalmarson's name from Williams Gas Pipeline. He represents INGAA and is retiring from Williams, and it's unfortunate. He's one of the co-chairs, along with Lanny Armstrong, of the working group and brings a wonderful perspective to the team, and we're sorry to see him go.

So we need to deal with his departure and find another co-chair from the industry that can represent industry's concerns.

The next topic that I wanted to mention is the Georgia pilot. I have to admit that I have not personally been involved in the Georgia pilot, so I don't have much to say about it. It's led by PHMSA's southern region. Mike Khayata is the primary lead there in the southern region.

It's a working group of pipeline operators, emergency responders, and regulators, very similar to the National Pipeline Emergency Response Working Group, but

focused, really, on issues in Georgia. And their goals are to establish and sustain effective communication between emergency responders and pipeline operators, develop training specific to Georgia firefighters, and develop a model, then, that's transferrable to other states.

I hope we can give you some more information about that Georgia pilot in the future.

Generally, we're trying to communicate with the emergency response community. We've been at multiple conferences and meetings over the last year. We went to the HOTZONE conference down in Houston, a major hazmat conference. We went to the International Association of Fire Chief's hazmat conference in Baltimore, hosted a booth there and provided a presentation.

We did the same thing at the Fire Department Instructors Conference, although we didn't present there, it's very difficult to

get on the agenda there, we did host a booth and delivered many thousands of brochures to local emergency responders there that talked about our programs and tried to educate firefighters about pipeline safety.

The Continuing Challenge Conference out in Sacramento and the Midwest Hazmat Conference. We've attended both of those as well. We also published, I believe now, three articles, or it may only be two articles, in fire service publications. One was in Fire Chief Magazine and the other one was in Fire Rescue, I believe.

And we have a host of resources that are managed by PHMSA that I think can, maybe not managed by PHMSA, but are at least integral to the work we do, that we can leverage in helping to improve pipeline safety.

The first, obviously, is the National Pipeline Mapping System. It's a great resource for emergency responders to

understand where pipelines are in their communities. I think one of the biggest challenges now is that pipelines are underground, they're out of sight, they're out of mind, pipeline incidents are rare, and when they do happen, are catastrophic.

We constantly talk about the fact that pipeline incidents are very low risk, very high consequence, and because of that, these low-risk, high-consequence issues often don't get the kind of attention that other issues do within the emergency response community, so that awareness is key, and the Pipeline Mapping System can at least show folks where the pipelines are in their communities.

Some changes can be made to that system to improve its utility for emergency responders, including adding emergency response contact information for pipeline operators, those kinds of things, and those are all issues that are under discussion.

We have the Pipeline Emergencies Training Curriculum, produced in partnership with the National Association of State Fire Marshals. Very, very comprehensive training material. I've been told by many emergency responders that it's too comprehensive, it's too much, it needs to be pared down and broken into digestible segments that are relevant to emergency responders, and so there's some discussion there around how to break up training to make it more digestible and relevant.

The Emergency Response Guidebook was recently updated in 2012 and it now includes updated and expanded pipeline pages in the white pages of the ERG. Industry contributed to that. Susan Waller, in particular, from Spectra and INGAA, was instrumental in helping us update those pages.

It discusses the basics of pipeline emergencies; how to acknowledge or recognize a pipeline release. You see gas

blowing out of the ground, you see water bubbling, you know, odor of gas, those kinds of things, and then the initial steps that emergency responders need to take to ensure public safety in a pipeline incident.

I actually got some feedback recently that some additional changes could be made in future iterations of the ERG, and certainly, that's always possible.

PIPA, the Pipelines and Informed Planning Alliance, you know, building around pipelines increases the potential consequences of pipeline incidents. We all know that and land use is a big deal in the vicinity of pipelines. And PIPA does have some recommended practices that address, directly, the impacts of pipeline incidents and how those potential consequences can be mitigated with smart land use planning.

Call Before You Dig, obviously, if you want to avoid a pipeline incident, don't hit it with a backhoe. Technical assistance

grants, we offer $1.5 million a year to communities for a variety of technical projects related to pipeline safety and one eligible activity under the TAG program is improving emergency Response at the local level.

To do that, we've given multiple grants to communities to create mapping systems, improve their mapping data, certainly, mapping data can be invaluable for both planning and responding to pipeline emergencies.

Our community assistance and technical services managers are always available to help coordinate and communicate. Our stakeholder communications Web site and other Web sites are fairly comprehensive and describe a host of things that we're working on right now. We've recently updated those.

And the last bullet here speaks to a project that we are funding through the Hazardous Materials Cooperative Research

Program, the money and project are being administered by the Transportation Research Board, and that project, HM15, if you go to trb.org and look up HM15, you'll see the description of the project.

The outcome of that project will be a guide that will describe how pipeline operators and emergency responders can best communicate about pipeline emergencies. It will address how information should flow between operators and emergency responders, and also how information should flow within the emergency response community at a local level to ensure that the right people know what they need to do for pipeline emergencies to respond effectively.

I also mentioned that NENA has just stood up. NENA is the National Emergency Numbers Association. They represent public safety access points; 9-1-1 centers. They've just stood up an application that helps pipeline operators communicate directly with

the 9-1-1 centers in the communities they traverse if there's an incident, and that was the subject of a recent advisory bulletin from PHMSA.

I think it's a fee-for-service application. I don't know much about it, but it's just something for your information. I also know that there are lots of other initiatives out there, API/AOPL has been very active in emergency response, INGAA has been very active in emergency response.

I haven't covered those things because I'm not the expert on those, but, you know, I hope that this has been at least a good exposure to some of the things that we're concerned about and working on.

CHAIRPERSON GARDNER: Thank you. Do we have any questions or comments? Well, obviously, Gene?

DR. FEIGEL: Sam, this is an area I know next to nothing about. I'm just curious. I mean, in terms of geographical

cover, and if not population cover, I've got to assume that volunteer fire departments are the first responders in a big chunk of the country. I mean, I know they are where I live.

How much uniformity and training, typically, is there within a region, or a state, in that regard? I guess my point being is, if you could come to Connecticut, where I live, and convince the State Association of Fire Chiefs that you've got a module that's important in their training, would it very likely trickle down fairly uniformly?

MR. HALL: I appreciate your question. I think Jerry may be able to best respond to that, if I can put him on the spot.

MR. ROSENDAHL: I promised myself I wasn't going to talk today, since this is my first meeting, however, Gerry Rosendahl from Minnesota, and from the fire area, the last thing in the world I want to do here is represent the fire service badly, or put any

kind of a, you know, bad, whatever, image on them, but that's a very real question, and a very good one, and in Minnesota, it's 90 percent of 20,000 firefighters are volunteer.

The number overall in very small -- we have 785 fire departments just in Minnesota and the actuality is, there is uniform training, NFPA 1001 is the firefighter 1, 2 hazmat level training. It's all out there, but the ability of all of those fire departments to get all the training that's needed down to every firefighter is just a massive kind of a project.

As Sam said, a firefighter could go through their entire career, volunteer or career, without ever going to a serious pipeline incident. And therefore, it's such a low-risk, you know, low-frequency kind of a situation, and how much time do the fire department, in their training program, some of which are, you know, they meet once a month for an hour, or two, or three, to get the

basic training, and they're going to train on the things that they respond to, which are medicals.

You know, a very, very high percentage of fire department's responses are rescues, medical emergencies, whatever. Thankfully, the actual trend on actual structure fires is downward. It has been for years, so that's the issue.

I made a couple of notes, Sam, just, I think, that relate to this. I hope they do. You know, we talk about awareness of pipeline emergencies and certainly, there's need, as you said, to break this down into specifics, but I think we put together a program and then it covers, you know, from soup to nuts, on pipeline emergencies, response, and everything you need to know from, probably, the awareness level, to an operational level, to a technician level, to a specialist level, you know, how the hazmat is divided up.

And, you know, you have people that are there for the first night to learn anything about it all the way to the 20-year veteran, maybe in a career department, so it's difficult.

The key here is to get it into the small fire stations, to the individual firefighters, and to give them enough of an understanding of what they need, and it's a very tough issue. We have a group in Minnesota that does pipeline industry, does a great job of going all over the state, putting on workshops, you know, providing information on their companies, their products, through the care organization that we have in Minnesota.

And number one, how to get the firefighters to attend; the responders to attend? Well, we've got one, kind of a, theme in Minnesota; feed them and they will come.

MR. HALL: That's universal.

MR. ROSENDAHL: Works in Iowa too.

But even that, and they do that year-to-year, we get the same people that are there, and the ones we miss, we still miss a lot of them. This is a huge effort, need, whatever, and it's just very difficult. So I think you just have to be persistent with a consistent message and that's, you know, what we need to do. So that's my comment on that. Thank you.

CHAIRPERSON GARDNER: Jeff.

MR. WIESE: Well, first of all, thank you, and no need to be a shrinking violet here, I don't think anybody either expects and/or wants that, so appreciate your comments any time you make them and thank you for being here.

Would just add, you know, we've been in alignment with NASR for a long time on this and we did work, and I think the chiefs were involved, maybe the volunteers, on the development of pipeline emergencies. There is no one answer to this issue. I mean, Gene, you raised a, you know, very relevant point.

I think everybody understands it. That's why I think you hear Sam saying that we were trying to get into established mechanisms for delivering this stuff.

We used to think, at one point in time, maybe in 2002, that we'd be able to develop something, we'd be able to go out there and solve it with that. It's very useful fodder for solving it in a lot of other ways. You know, I'm pleased to Deputy Butters is in the house. I happened to notice him as I came back in.

Tim's been very helpful to us in making connections with various parts in the emergency response communities. Sam's been working with him and others to do that never-ending, you know, it is a never-ending task. The operators, you know, let us not sell short what all the operators do on a regular basis.

And speaking personally, my only frustration is the groups who offer services to the operators who do really crappy work.

You know, they go out there and they handout a pair of gloves, you know, as an incentive to somebody to come to a meeting, or a steak. People cough down a steak and they're gone, you know?

I don't know that there is much value achieved in that, so sorry, that was more rhetorical than anything else. It's not to say that there is not a good exchange of information. People meet each other and they, sort of, know what to do when things go wrong.

As Tim tells me all the time, you know, it's just a hazmat response, you know? And of course, I think of them as a pipeline response, but it is a hazmat response, you know, of a different kind. So I think Sam, and Tim, and others, are committed to working on this. I know Richard Miller is here from ICHIEFS and others, so we're really trying to draw the emergency responders in.

We have them on all of the -- see, I knew I could bait him up here if I said

that. We're trying to draw the emergency responders in closer into pipelines so we have more regular and ongoing conversations, but perhaps it'd be prudent of me to put my tent down and offer time a slot in there.

MR. BUTTERS: Thanks, Jeff. The only thing I wanted to add is, you're spot-on. As, you know, a fire chief myself for many years, and a firefighter, we are generally aware of pipelines, but we always felt that the training, and as Jeff is fond of saying, in the fire service, whether it career or volunteer, you work with either shifts or groups of people that work at certain periods, and we'd always laugh that when the pipeline presentation was done for B shift, A shift and C shift, who were off that day, didn't get it.

And, of course, the pipeline incident happens on A shift or C shift, not on the shift that had the training. So that's, sort of, the reason why we engaged with Georgia about looking at different ways of

attacking this problem, because it is a challenge, as Gerry indicated.

80 percent of the fire emergency response community out there is volunteer, although, the career systems protect, probably, 80 percent of the population. So it's really a risk-driven sort of issue, and making the fire service aware of what the risks are in their community, and kind of developing training to address that is really part of what we're looking at.

The other area, NFPA 472, which is the standard for competencies for hazardous materials response, is another focus that we're looking at. We have representation on that committee. Ironically, Larry is the representative for the industry and he's retiring, hopefully he'll stay engaged, but we really need to make sure that the pipeline industry is engaged, because that really drives what the training requirements should be.

And as was alluded to, what training you provide to what I call the guys that ride backwards in a fire truck, which are the firefighters, is going to be much different than the training that you're going to provide to a command officer, or a battalion chief, who has to actually institute command operations at a pipeline incident.

So we're looking at, again, through Georgia, is how we can break that up so that we are really zeroing in on the kind of training that's needed. And as Sam mentioned, institutionalizing this so that as a firefighter comes in and gets their basic training, their recruit training, we integrate pipeline awareness so they understand, yes, I got to make sure that I understand how I'm going to deal with these sorts of things, because gas leaks and flammable liquid incidents, fire departments run gas leaks all the time.

It's mostly in the distribution

side, but it's a normal course of business, and often, they become complacent and we've had a lot of significant incidents where they did let their guard down and some rather tragic, almost near misses, occurred because of that. And so it's just a constant, you know, making sure that they're aware that they go to keep their head in the game.

The other thing that we are looking at is, and it speaks to Gerry's point about low-frequency, high-consequence-type scenarios, which pipelines are, is, we need to take advantage of the lessons learned, and I don't think that we have, generally, done a good enough job of that.

For example, the incident that occurred in West Virginia day before yesterday, we need to find out how the emergency responders handled that incident, what did they know, what didn't they know, were they aware of the pipelines, and what actions did they take so that we can start

building that resource list and start closing those gaps.

When I went to Marshal Michigan a couple months ago, I was very surprised that there was no comprehensive, or focused, after-action study to look at the emergency response to that incident. That was a significant crude oil release, some say it was one of the largest in the U.S. history, and there was no real look at, how did that emergency response system work, what actions were taken by not only the fire department, but public health, emergency management, law enforcement, all of them had a piece of the action there because those sort of lessons can be very, very valuable to other communities that have those incidents.

And then, you know, we can help them better prepare themselves if it should happen to them. When I was in Pennsylvania with Cynthia on Monday, and I mentioned this to Wayne, a very eye-opening day for me in

terms of the shale gas and oil production. Just the magnitude of what's required to move that energy and a lot of those facilities are in rural areas where they're protected by volunteer departments.

One of the questions I asked Chesapeake is, what have you done to help make sure that the emergency response community in these areas are aware of these facilities? And they have done that. They are working with the local departments to make them aware.

And we need to take those lessons, and those best practices, and begin to share them in Texas, and Ohio, and North Dakota, and other communities so that, you know, we're not reinventing the wheel, and hopefully, you know, getting ahead of the game here a little bit.

CHAIRPERSON GARDNER: Are there any other questions from the -- Don.

MR. STURSMA: One of our discussion items yesterday, just want to talk

about what Dan just mentioned, concerned whether there should be a requirement in state law that anybody that hits a pipeline call 9-1-1. Well, in some unfortunate experiences we had, they call 9-1-1 and 9-1-1 doesn't know what to do with a call like that. What they will probably do is call the local fire department and let them figure it out.

But if there's a presumption that calling 9-1-1 is going to immediately get word to the responsible pipeline company that something is happening on their pipeline system, don't bet on it. We had one case a while back where it took two days to figure out whose line that was.

MR. BUTTERS: That's a great point, Don, and that was another take-away that I took from Marshal Michigan. And the supervisor at the 9-1-1 center, he had this very, you know, sort of, offhanded comment that just really resonated with me.

He said, you know, if I had the

ability to contact -- if I could have contacted Enbridge when 9-1-1 was starting to light up because people were getting these odors of oil, if I had been able to contact them and say, you know, are you seeing something on your system in our community that indicates there might be problem, they could have probably gotten to that leak ten hours before they did.

And I thought that was just very unusual, because, you know, the 9-1-1 systems I'm familiar with, they have contacts with all the industries for the risks in their area, and they can immediately call them, but that's an area that we need to focus on.

In fact, we had not only NENA, as Sam mentioned, but APCO, which is an association that represents these PSAPs, Public Safety Access Points, to begin improving that communication system.

Another incident which just recently occurred up in Paulsboro, New Jersey,

involving a derailment, one of the questions that came out of an NTSB recommendation was, are pipelines cited where derailments occur because of the, you know, work that's done to correct, or fix, wreck the train, as they say in the business, to get that line back open could involve excavation, to make sure that pipelines are known.

It turned out that there were three pipelines in that vicinity of that derailment, probably all abandoned, but they weren't known at that point, so that's another area that we really need to make sure is working, is that, you know, in the event of these other transportation incidents, and maybe an emergency call to 8-1-1 in these cases would be valuable so that utilities can identify what's in those areas, because on a related point with the pipeline incident in West Virginia this week, we were advised that, one of the consequences of that was a rather sizable fiber optic line was damaged, which

has compromised data and communication in that area.

So there's other utility challenges, in addition to pipelines, when these transportation incidents occur, but the connection between 9-1-1 and the companies are critical. And Don is absolutely right, if they call 9-1-1, that doesn't necessarily mean that the company is going to be notified, but we believe there are some alternatives, there's some options, to facilitate that immediate communication.

CHAIRPERSON GARDNER: Mike.

MR. BELLMAN: I'd like to kind of take this a little bit to where Don was going too, on the contacting 9-1-1. PHMSA issued an advisory bulletin two months ago that is problematic for a distribution company to implement some of the things that were in there, specifically, we should be calling 9-1-1 on a loss of communications from SCADA.

Now, in a network distribution

system, I might have four or five different points that are monitoring, and to lose communications to one of them does not indicate an emergency when I can look at the other four and say, pressures are fine, let's send somebody out to check the communication line.

So it appeared that that advisory bulletin was more towards the liquids than the gas transmission, maybe, but I wonder if you could comment on that and this issue that, if we are constantly calling 9-1-1 on every issue, you know, how often are we going to become complacent from the fire service?

MR. BUTTERS: Well, let me take a stab at that. I think the premise, the spirit, of that is to, if you're seeing a problem, a potential issue, that the local community is made aware of it, and I take your point that, you know, you don't want to create a system where you're contacting them every time there is, you know, a potential problem

that turns out to be nothing, because then you get the whole Crying Wolf Syndrome.

And, you know, you get to the situation, oh, geez, they're calling again, and it's going to be nothing. And so when the real deal happens, you know, you've missed it.

I think what it requires is some logical discussions with the 9-1-1 systems, and to me, that's where a conversation between the industry, and NENA, and APCO, would probably be helpful in terms of saying, all right, look, we want to make sure that we're addressing what the intent of this advisory bulletin is, but we don't want to, you know, create unintended consequences, and figure out what the right system is.

To me, there's a solution in there somewhere, but I think having the right people at the table, and talk through it, and figure out what kind of protocols need to be developed so that, number one, they're not being burdened with unnecessary contacts, and

at the same time, you know, they're not getting the information that might be relevant.

So that's, to me, how I would probably approach it, but it's not going to be an easy -- it's a complicated system out there. There's a lot of PSAPs and some are very sophisticated, like Fairfax, Chicago, et cetera, have a very, you know, state-of-the-art 9-1-1 system.

But, you know, where I have property, for example, in rural Virginia, the 9-1-1 center is one person who also is the dispatcher, is the call taker, is, you know, a dogcatcher, I mean, so you've got, you know, multiple hats in those sorts of systems and we've got to figure out -- and, of course, as you can appreciate, when there's a significant incident, that 9-1-1 center just lights up.

I mean, you get many, many, many calls and the ability for, you know, those centers to allocate resources to handle a

particular issue can be a challenge as well, but I think, through training, and again, talking to some of the folks I know in that business, a lot of the call takers, when they get a pipeline incident, they're not even aware of the right questions to ask.

You know, we went through this issue with the EMS response where -- because a lot of the folks that answer phones at 9-1-1 centers are not emergency responders. They're civilians that are trained and they don't have, necessarily, any field experience, so you have to develop sort of a key questions to put in front of them so that they are asking the right things.

And training is something that they said that they would like have for their personnel that staff these 9-1-1 centers about pipeline emergencies, just to give them an idea, you know, what's involved and, you know, that's where you can develop those contact numbers so that if they do get a pipeline

incident in their community they know, okay, here are the four, five operators in my community, and this is who we would notify.

And likewise, the operators would know, you know, what 9-1-1 centers serve their system.

CHAIRPERSON GARDNER: Thank you, Deputy Administrator, who did not hear my ambition to be out of here by noon.

MR. BUTTERS: But, Chair, you always reserve the right to cut me off.

CHAIRPERSON GARDNER: In the interest of time, we're not going to take a break, but obviously, we're all semi-adults here and so if you need one, please feel free to do so. Are there any comments or questions from the public? Okay. Hearing none, all right. Stop playing. We'll move on to Agenda Item 3, which is Fitness for Service, and Alan just left.

MR. WIESE: He was one of the adults.

CHAIRPERSON GARDNER: Okay. We do have a panel that's also going to participate with Alan when he gets back. We hope that it's not too long and you had the panelists? Do they know who they are?

MR. WIESE: Yes, and another one of those was an adult too.

CHAIRPERSON GARDNER: Why don't we just take five minutes?

MR. WIESE: Yes, right. Thank you.

CHAIRPERSON GARDNER: 11 o'clock, folks.

(Whereupon, the foregoing matter went off the record at 10:54 a.m. and went back on the record at 11:03 a.m.)

MR. WIESE: With the Chair's permission.

CHAIRPERSON GARDNER: Okay. Oh, you're here.

MR. WIESE: Sorry.

CHAIRPERSON GARDNER: Those liquid

guys, you can never trust them. Okay. Alan is back. Anything you want to say, Jeff?

MR. WIESE: I just wanted to make sure that everyone in the room, I'm not sure all of you, and some of you are newer members, make sure that you knew Alan. We did this day before, Alan Mayberry is my Deputy for Field Operations. In that regard, he has the great joy of running all the emergency response, you know, incident calls we do.

He also directs the oil spill program as well as field operations. Behind me, since we did this before in the liquid committee, we also have Linda Daugherty, who is my deputy for policy and programs. She pretty much gets to inherit everything else, and while that sounds disproportionate, I think both of them think they have their hands full.

So I've asked Alan to sort of kickoff a panel that we think is really important, and again, it's sort of a precursor

discussion as we move towards IMP2.0. So with no further ado.

MR. MAYBERRY: Okay. Thanks, Jeff. And you can thank me for that impromptu break, I guess. I was nowhere to be found, but all right, the topic today, we decided to add it to the agenda, Fitness for Service, the reason being, for education and to establish the public record on this concept. It's been used in industry. I'm familiar with seeing it used related to pipelines, but today, you will hear from two of your fellow committee members on what fitness for service means for their respective areas.

You know, as we go forward, as Jeff mentioned, toward IMP2.0, you know, is there a place for fitness for service? I can tell you today, we don't have plans, there are not immediate plans when we leave here, nor are we currently working on a policy, or regulations, for fitness for service.

However, we are interested in

understanding, you know, as we put all the pieces together, where this could fit in, you know, to how operators manage pipelines going forward and then how we, as a regulator, oversee pipelines. So without further ado, and I'm trying to be on-target with our noon departure, I will turn it over to our panelists.

We have two today, Sue Fleck and Chad Zamarin. I think, Chad, you'll go first and Chad will give you the perspective from the Inner State Natural Gas Association of America, so thanks, Chad.

MR. ZAMARIN: Thank you, Alan, and I do think my goal here is, well, twofold, one, to make sure we get out by noon, and two, to hopefully provide a bit of an overview and some context around the term fitness for service. It's a fairly broad term and I hope to try to put in context of an inner state pipeline operator and, potentially, the framework of our regulatory environment.

It's also, hopefully, the outcome is that people understand it as a process for addressing technical issues in a disciplined manner. It's not a panacea for every issue. It's more of a process that we are trying to apply some specific technical challenges.

In particular, I'm going to focus a little bit of what we've done on how we're trying to solve the challenges that we have with pre-regulation pipe, pipe without a pressure test, pipe that may have less than desired records, because they were installed at a time where those standards weren't in place.

I'm sure there are a lot of different definitions out there, but to try to put a little bit of thought to what fitness for service means, we see it as the ability of a system or component to provide continued service within established regulations and margins for safety.

And it is a well-accepted

approach, seen in a lot of different industries, to evaluate the condition of a system or a component to determine acceptability for continued operation.

It's been applied in the petroleum refining, petrochemical, pulp and paper, nuclear, coal, and gas fired electric power industries. I would even say that the way that we're viewing fitness for service, it's been applied and it's really a methodology that shows up -- it's a term for a broad set of methodologies that show up across, you know, virtually every industry.

One of the specific applications in the pipeline industry was as early as the 1980s and is really the foundation for how we assess metal loss damage in our pipelines, how we characterize that damage, and determine whether or not the pipeline's pressure carrying capacity has been reduced to the point where a repair needs to be made.

A few more thoughts around fitness

for service for pipeline systems. It's a disciplined approach to assess the condition of a pipeline to demonstrate safety and reliability. I think, to Alan's comments, this is not meant as a bypass for strong regulations. In fact, we view it as a potential foundation for regulations that are intended to address the challenges that we're facing.

It's process-focused, it's based on sound engineering, and I would submit that, in the context of how we're defining fitness for service, there are numerous examples. I've showed just a few here. The alternative MAOP rules that are in Part 192 that describe the methodology for establishing a higher design factor for a pipeline than the traditional design factor that's in our code.

It requires multiple iterative steps of advanced engineering analysis and assessment in order to achieve a higher design factor, very process-based, very balanced

against the desirable outcome. Weld seam integrity, there was a DOT effort several years ago to establish a process for determining the risk associated with potentially deficient weld seams, ERW in particular, pre-1970 low-frequency ERW, but that process has been applied to many different types of seam welds.

It's referenced in our regulations and it's applied by operators to identify where additional activities beyond, really, the minimum code requirements are required for pipelines that may have unique conditions. Process-based, it's a very detailed process that we go through to determine whether or not a pipeline requires more than just your basic regulatory maintenance and inspections.

Threat-specific integrity assessments. The code has much of it built in. When we perform integrity management, we're required to consider a multitude of threats and we have to go through very threat-

specific assessments for addressing those various threats to pipeline safety, and also, defect-specific engineering critical assessment.

I would offer that, the prior slide that spoke to B310G and our metal loss assessment, that's a form of engineering critical assessment, a form of fitness for services, and that's well-established in the pipeline industry.

So I wanted to try to dispel a little bit of the mystery around fitness for service, that I think it is something that is more of a concept, provides a framework for taking a process, an engineering approach, to addressing some of these issues.

I'm going to relate it to the significant focus that we have right now on maximum allowable operating pressure and pre-regulation pipelines. Obviously, a lot of that activity and focus in this area, numerous PHMSA advisory bulletins, obviously, many of

the NTSB recommendations relate to this particular issue.

We've also seen the California MAOP order and the emphasis on this particular issue. A lot of discussion about the need for a standard on records so that we ensure the systems, and the data, and the information upon which we're making decisions properly reflects the assets that we have in the ground, and so the standard of traceable, verifiable, and complete has been put out there by NTSB, further defined by PHMSA, and is already being applied by operators. We'll talk a bit about that.

But I wanted to just highlight, and I know it's tough to see up on the screen, but this slide is meant to show, this is an issue that is expansive, that is complex and challenging. Maximum allowable operating pressure touches just about everything we do as an operator.

It's, in effect, the legal limit

for the pipelines that we operate and across the bottom it shows that it affects how we set alarm set points and gas control, it affects how we set pressure protection points on equipment out in the field, it affects how we setup our compressor, our horsepower, how we do risk assessment, it's a factor in almost every engineering analysis that we do, so getting it right is, obviously, critical to just about every aspect of our business.

So I think we recognize, as an industry, the importance of maximum allowable operating pressure and getting it established correctly the first time and then maintaining it for the life of the asset.

So in light of the outcome of San Bruno and many of the other incidents, we recognize the need for a fitness for service protocol for pipelines built prior to regulations that may not have an MAOP qualified to today's standard.

So I'm going to talk,

specifically, about how the inner state pipeline companies have developed a process that we're not claiming to be the final solution, but at least we're putting out in the public and in our operator community as a methodology for addressing this issue, and I'll talk a little bit about that briefly.

So our charge has been to develop and apply guidance, to address records at MAOP for pre-regulation pipe, to address the NTSB recommendations and the PHMSA advisory bulletins, and set a standard for pipelines built prior to regulations, and where pipelines don't meet that standard, identify the actions that an operator will take to mitigate that issue within some defined period of time.

I won't go through this in detail. I have a white paper that, a one-pager, I'll pass to Cheryl and she can pass it out to the committee. There's also a white paper that was published, a presentation that was done at

the IPC, I think it's important to note that the team that's been developing this process for this particular issue has produced much of this work almost 18 months ago.

So again, not trying to claim the final answer has been achieved, but trying to put a framework out there for others to see and to weigh-in on. It's evolved over that period of time, but for the most part, I think our feedback has been that people recognize we need a process approach to addressing this issue.

So I'm not going to go through this in great detail, and the one-pager gives you a better example of how various pipelines result in different outcomes. I'll touch on it briefly, but let me just jump ahead for now.

We did put out a process for verifying pipeline records. This is kind of the start for the operators. In the inner state side, most operators are going through

this right now. Jeff mentioned that we have next year to report our gaps in records for pipelines and the establishment of MAOP.

That will be reported in our annual report filing in June of next year. And so operators are going through, and we've proposed, kind of a systematic approach. This is the high-level view, but we have a very detailed protocol for taking your pipelines and the records for those pipelines through a process to verify the maximum allowable operating pressure, and where that can't be verified, we propose this fitness for service approach.

Not meant to see the process on this, although, I do have, in the last two slides, a little bit of an easier view, but for now, I'm just going to speak through it, the point of the process, and answer any questions on any specifics anyone has, but we could certainly spend days on charting our way through the process map to address particular

unique pipeline issues.

I think we all know the legislation included a requirement to address MAOP and records, and to address pipelines for which a pressure test was not performed on high-consequence areas and Class-III and IV pipe. As I mentioned, we commissioned a workgroup, we've had broad industry involvement, and we already have operators aggressively researching their systems.

This first page of the process map characterizes your pipeline and whether or not you've been able to establish a pressure test performed in accordance with current regulations, and if not, is there any other form of pressure testing that's been performed to help categorize the types of issues that you're dealing with on a pipeline for which you haven't had an established pressure test and MAOP.

The second page or our process really addresses, once you've characterized

the type of pipeline situation that you're dealing with, whether or not that's a high, medium, or low-risk situation. And what we do, for the most part, I think one take-away is, we've proposed that, for pipelines in high-consequence areas, Class-III and Class-IV, if you can't produce that traceable, verifiable, and complete documentation to support a pressure test was performed, you're going to have to address that issue.

You're going to have to either pressure test, you're going to have to reduce the pressure of the pipeline by an amount virtually equivalent to a pressure test, achieving a factor of safety, or you're going to have to replace the pipe.

And we've proposed, for that highest risk portion of pipe, a seven-year timeline, again, not claiming that it's the right answer. We've tried to base a lot of our work on solid technical foundation. We've tried to be aggressive, but I think the

framework is what, most importantly, we've tried to achieve.

Where pipeline is not in a Class-III or IV, in a high-consequence area, even though the legislation doesn't necessarily go that far, we've proposed similar solutions for those categories of pipe. We have introduced the concept, or put a little more meat on the concept, that was introduced in the legislation of an alternative technology for establishing a factor of safety.

You know, we're primarily focused on inline inspection as a methodology. There's some precedent on the liquid side of the industry. Back in the late-'90s, a regulation was developed by PHMSA to address pipelines without pressure test documentation or a pressure test. It was termed a risk-based alternative to establishing MAOP.

I would call it a fitness for service process for establishing MAOP in lieu of a pressure test. And so we've tried to

bring in some of the precedent that's in place, but at the same time, we've made it clear that we're either going to have to demonstrate an alternative technology that can establish equivalent factor of safety, or better, as a pressure test, or we're going to have to pressure test, or reduce pressure, or replace those pipes.

Again, we're going to have to figure out over what time frame, but I think the point is, we've tried to show that there are a few different paths. We have also tried to identify that there's a category of pipe for which we think ongoing operations and maintenance, in accordance with the regulations, makes sense.

We proposed less than 30 percent SMYS as the operating pressure under which, not that you're going to operate and maintain it to a different set of standards, but to have that original establishment of MAOP, not a technical issue, not a safety issue, like it

is for a pipeline that operates at a higher percentage of its design capacity.

That is a very brief, I know, kind of whirlwind overview of a fairly complex issue, but I wanted to at least try to put out a view of how to take on a fairly challenging topic. We do have a legislative mandate. I know that PHMSA has a lot of work to do to address this issue, but I can tell you that, from the operator community, we are trying to understand and plan for how we address this issue.

I think we recognize the need to bring all pipes up to a common technical standard for establishment of MAOP. One differentiation I would like to make that sometimes gets lost in this. Here, in this presentation, in this process, we're not trying to solve all of the challenges associated with pre-regulation pipe, old pipe issues, we're trying to make sure that just the pressure, the maximum allowable operating

pressure, was properly established.

There's still a whole other host of considerations that need to be taken into as far as how you operate and maintain and, you know, you can think of a lot of different methodologies for addressing those issues, but this is meant to try to put the issue to rest with respect to, do you have a well-qualified MAOP?

How you operate and maintain, you know, on an ongoing basis to stay at that MAOP is a different issue. It's not something we're ignoring, but just to hopefully help. Sometimes folks get confused there. And with that, I will hand it off, or open it up.

MR. MAYBERRY: I guess we will move on to the next panelist, if we could hold questions, unless you have a burning question right now, we'll just move on to Sue, who will provide the perspective from American Gas Association.

MS. FLECK: This is Sue Fleck,

National Grid, representing AGA. I will be skipping over some of my slides because they were talking to transmission, and I think Chad covered a lot of the transmission issues significantly better. I will state, though, that there are some transmission pipelines embedded within distribution systems. They're usually shorter sections. They're treated a little bit differently, so, you know, they're out there, but I'm going to focus more on -- okay. Perhaps. There we go.

Okay. I was using the wrong button. It's operator error. Nothing wrong with the technology here. The fitness for service is a concept that can be, you know, it's not brand new. It's not fully defined, as Chad said, you know, it's kind of evolving over time.

Many have been looking at it for a significant amount of time, others are just starting to get on the bandwagon a little bit, but it's really all about considering what you

have in your system, falls very nicely in with integrity management, you know, know your system, understand your risks, develop, you know, plans to address those risks, and mitigate what's going on.

So, you know, one of the things that we hear a lot in the distribution business is statements like, well, cast iron and bare steel pipe aren't any good anymore. You've got to get rid of them, or pre-1970 pipe isn't any good. You have to get rid of it.

And really, the fitness for service concept allows you to step back from those broad generalizations and really think about that particular material in the particular system that it's in, and is it still fitness for service or not? And in many cases, you can answer the question, yes, and in a different company in a different part of the country under a different operating pressure, the answer is no, you know, that

that particular material is not fitness for service.

So it really is a complex issue and we have to spend a lot of time thinking through it on a company-by-company basis and on our specific systems. I can also say that there is significant effort, currently, between AGA and NAPSR to kind of work together to understand some of these issues.

There are other groups of stakeholders getting together to understand fitness for service and to try to put some more logic behind the decisions and to create a larger body of information for the public and all the stakeholders to use in discussions.

Again, let's make sure I get the right one. I will skip over and get to distribution. On distribution fitness for service, unlike the transmission side, there's a much broader variety of materials that we're considering. And if you look at your

distribution systems across the United States, you have cast iron, you have bare steel, you have different varieties of coded unprotected, coded protected, coded sort of protected, steel pipe.

You have different kinds of plastics, copper, ductile iron, wrought iron, there's all different kinds of things out of there and there's also a broad range of different kinds of fittings, meters, regulators, relief valves, check valves, quite a great variety.

Pressures will range from a quarter of a pound internal pressure to, I'd say, over a 125 pounds. There are some distribution systems that are a 150, 200 pounds, so it's quite a broad range. And when you look at each one of these materials and try to make an evaluation on the fitness for service, you have to understand that each has their strengths and each has their weaknesses.

The current standard for

distribution systems is, really, plastic pipe, but plastic pipe is more flexible, it doesn't leak as much, well, it hardly leaks at all, it's easier to install, you have a broad range of sizes, it can go up to, you know, higher pressures, but it is more susceptible to excavation damage.

A backhoe tooth can go through a plastic pipe easier than it can a steel pipe. So that plastic is not fit for every possible place. Sometimes you have to install steel pipe. So just to kind of put it out there, in cast iron, you know, as I said earlier, a lot of folks believe that cast iron is no longer fitness for service. It's not the case.

Very large diameter cast iron pipe, we have some 42 inch in Brooklyn, was installed appropriately, it's properly joined, and that pipe's going to be there long past any of our lifetimes, and it will be fitness for service for a significantly long period of time.

So you can't just use a broad brush to say a particular material, or a particular age pipe, or a particular type of fitting is not fitness for service unless you understand the service that it's in, the way it was installed, the way it's been maintained and operated over the years, and then those decisions can be made.

So when we talk about distribution fitness for service there's really two different discussions. There's one on new construction and new construction has to go in based on federal and state guidelines, different materials that are considered more broadly fitness for service today, and they are installed in a different manner, with better documentation, and following all the current codes and standards, which are at a significantly higher level than what was installed in the past.

The second side of it is, after construction, the operators have to take a

look at different ways of continuing to determine whether that product, that pipeline, that service continues to be fitness for service. It may have on the day it was installed and now, 20, 30, a 120 years later, it no longer is.

And the way the distribution companies do that is, they collect data from ongoing operations and maintenance. They collect it through gas leak detection surveys, through corrosion surveys, pipeline patrols, marking, and watching excavation activities to prevent damage, and essentially, taking all of those pieces of data and making a determination on whether that section of pipe continues to be fitness for service or not.

And to kind of give you a little bit of a feel for it, I'll give you an example from our territory. We have a couple hundred thousand bare steel services across our service territory. And in general, bare steel is going to corrode, so we know that that

needs to have a replacement program in place.

And we took a look at all of our bare steel services across our territory and developed a replacement program for that. Then we drilled down on that a little bit and took a look at pressures, so we figured, you know, higher risk would be higher pressure.

So those services that are high pressure are going to be replaced on a shorter time frame. Further dug into it and looked at operating, and corrosion, and leak history on those and determined that high pressure inside services, particularly those that are in flood zones, are at an even higher risk, and those services have all been removed from our territory.

We put them into, I think it was about, a one-year, possibly a two-year, replacement program, where the other ones are on five years, and some are on a 25-year cycle. But again, it's looking at the operating conditions and the history and

knowledge you have about those items, those assets, within your system and how they're operating over time.

So local distribution companies use a lot of different tools, as I was talking about, and similar to what Chad was talking about on the transmission side, your decisions are all about, should I repair this pipe, should I rehabilitate it, should I change the operating conditions, such as lower the pressure or provide some other support to it, or flatout replace it?

And on distribution companies, the assets are generally smaller, generally less expensive, and you'll see more replacement programs, less rehabilitation programs. There aren't as many opportunities to rehabilitate distribution piping as there are on the transmission side.

But we collaborate with our state pipeline safety representatives and teams, and sometimes the commissions, to talk about the

options that we have. And I can give you another example, one of the states that we operate in, we have quarterly meetings during the year where we actually come in with all of our information about how our pipes are operating, leak rates, and other performance factors, and we sit down and have an all-day meeting, and talk with the safety regulators, and come to some agreements on whether we think our replacement programs need to be accelerated or decelerated, or if we need to add different materials into the program than had been in the past.

So it's a nice collaboration. I think we come to a program for the upcoming year that makes a lot of sense from both the state regulator's perspective and from the utility company's perspective. And I think we often times come to better results when we have those collaborations.

So basically, in summary, you know, I'll throw a term out that I didn't

mention earlier in the presentation, it's really, you know, fitness for service for the distribution companies is all about integrity management principles. It's all about understanding your system, understanding what's in your system, understanding how it works, how it operates, how you've maintained it, and whether or not it is continuing to be fit going forward.

And when the determination is made that the fitness might be coming to an end, or this particular bit of pipe needs to be replaced, then we use smart modernization techniques, essentially, to go after it, and that's developing rehabilitation and replacement programs, figuring out, you know, how much time we should take, based on the performance, to replace a particular system, and then enacting those replacement programs over long times.

Sometimes they can be, you know, one-year programs, and sometimes, in the case

of our cast iron, our extensive cast iron networks at National Grid, we're looking at, like, 30, you know, to 40-year replacement program in some of the states where we do business.

But again, it's based on the performance of those particular assets. So a little different. Philosophically and methodologically, you know, similar to what's happening on the transmission side. Since the assets are different and the use are different on the distribution side, there's a little more flexibility and each company has to kind of come up with their own way of evaluating fitness for service, so it's a little bit different on the actual playing-it-out end of the equation. That's all I had.

MR. MAYBERRY: Great. All right. Thanks, Sue and Chad. I guess, just to wrap-up, you know, before we go to questions, you know, as our focus is pipeline safety, you know, we are interested in this concept as a

way to, you know, establish the confidence in the safe operations of a pipeline and also ensure that confidence is maintained.

You know, it's a concept; expect to hear more about it. We're not predisposed at this point, like I said, to write a policy, or write regulations on it, but perhaps it does have a place as we go forward with IMP2.0.

You know, just another point too, you heard mention of grandfather pipelines and the possible application for those, you know, the issues of record keeping, that sort of thing. You know, you've also heard from our administrator and deputy administrator on, you know, seeing the gathering lines that have gone in, have been going in for the last several years.

We really don't see this as an alternative or a method to establish. If those weren't installed using proper practices, we don't see an off-ramp that would

take the place of good installation practices. As you well know, our code's well-established, B318 is well-established; B314.

If the newer gathering lines that ultimately come under our regulations aren't installed, you know, according to good practice, with quality practices, then I don't really see this as an off-ramp as we go forward for those types of facilities.

And with that, I guess I'll open it up for questions.

DR. FEIGEL: Sue, I think in your first slide you alluded to an API standard, I assume it was 579, saying it's not applicable to fitness for service analysis, and obviously, for plastic pipe, and probably, to some extent, for the less ductile stuff, but I would take issue that it's not at all applicable to anything you're doing, which is kind of what you seem to be saying.

MS. FLECK: And I probably didn't mean to characterize that way. What I meant,

and the intent of that is, that you can't take that standard and say it applies wholly and completely to distribution pipelines. I agree with you, there's certainly learnings within that standard and concepts within that standard that are perfectly applicable to what we're talking about, which is not the standard as a whole.

We want to make sure that people don't misunderstand the term fitness for service and think it means that standard, because that would be a confusion point, but you're right; you're absolutely right.

MR. STURSMA: Well, I think we all agree that trying to figure out some practical way of dealing with both the physical, the service, and the economic issues around, I guess, the change in what is acceptable for maximum allowable operating pressure, that's a big issue we have coming down the road.

But in the meantime, you both went through your presentations very quickly. I

did not get a chance to digest everything. I wonder if those could be made available to us?

MS. FLECK: Mine has already been made available and you also have on your desk, two pages, one with some transmission concepts and one with some distribution concepts from AGA that you can read in a little more detail. We can also make ourselves available for questions, so all of that I've talked about today is available.

MR. STURSMA: The presentations are available someplace. I guess I don't know where they are so I'd just like to know where I could get to them at.

MR. WIESE: I think I can answer that. We'll be posting them on the advisory committee Web site. They may not be there now, but I think we have the slides now, so that'll be within a day or so. You know, perhaps what we can do, Cheryl, John, if you can remind me is, when we're sure we've got a full docket of all the presentations up there,

we'll just blast out an email to you; make sure know everything is there.

I wonder if you'd allow me just one quick one. I know we're bumping up against the end of the --

CHAIRPERSON GARDNER: Oh, no. We're in good shape.

MR. WIESE: We have time? Okay. Good. All right. I wanted to thank both the presenters for taking time to come and speak to you today. One of the things I've always found interesting about advisory committees is, really, more when the members speak, you know, as opposed to us briefing you, it's you briefing us on what's going on.

You've been appointed because of your expertise, so we really do enjoy hearing and so I want to thank both Sue and Chad for that. As Alan pointed out, I think these are topics that we need to have in play and need to be debating. You know, as a regulator, you know, and putting on my regulator hat, you

know, I got questions I could probably ask both, but I think it's probably not necessarily the time for it, whether it's time intervals.

You know, my thing is, the people we typically bring to the table here are usually pretty good operators, you know, but not everybody we deal with is a good operator. So I'm really interested in trying to take away a little discretion for some of the ones who aren't good operators.

So by working with good operators to define logical, practical, methodologies that need to be followed, I think that's one of the ways in which we address some of those lower-rung performers. You know, and there are those people that are stretched economically, or whatever it is, but they're cutting corners and they're causing a risk to the public that we, in NAPSR, you know, are really committed to addressing.

You know, and I think introduced,

you know, a discussion topic that we'll have to get into more too, how long, once you realize you really don't have what you need to establish the MAOP, should you have? You know, and I think that's why we have the economic regulators in the room, you know, in talking with them.

I think there's got to be a solution on both of those things. You know, bring in the economics into play in positive way to help, and we come in, always, from the negative end, you know, trying to force people in places, but it is good to have more specificity.

I'm not trying to, you know, reach decimal place accuracy, but I do like the flowchart approach myself. That's just my limitations of my thinking, but it does walk those lesser operators to a place where they really don't have an option. So thanks for that rhetorical moment.

CHAIRPERSON GARDNER: Well, since

you've taken the opportunity, I'll also add, also as a regulator, I'm, I guess, a little bit sensitive to Sue's comment about the various diversities and that each of the individual distribution companies are kind of unique and I'll just interpret her comments to mean that they might need customized regulations and approaches to determining how their fitness for service application can be defined.

And at the end of the day, most of the natural gas distribution infrastructure is still pretty much built with the same types of pipes. There are only about four or five different classes of pipes. The pressures are, for the most part, pretty consistent across them and I guess I just want to push back on the need to, kind of, characterize this as such an overly complex problem that, you know, we'll need hundreds of years in order for us to rectify. So if you want to speak to that, I appreciate it.

MS. FLECK: Yes. Thank you. I would. Again, this is Sue Fleck from National Grid. It's not that there's necessarily a different approach for each utility company, but there may be different results when a fitness for service analysis is in place, and I'll give you another example specific to National Grid.

Our cast iron in the Boston, in the Massachusetts area, and our cast iron systems in the New York City area, were installed using very different methods, and I would argue that the installation methods put in place in New York City were far superior to the installation methods that were in use in Massachusetts.

So the same size pipe operating under the same pressure situation probably needs to be replaced sooner in Massachusetts than it would in New York because of those construction and installation differences. So we'd use the same methodology to make the

decision, but we may come to very different answers.

And when I'm talking about the difference between different companies, it's probably more in that direction that I would urge caution. You're not going to have -- you know, if you talk to Con Ed, and National Grid, and PSE&G, all operating within the New York Metropolitan area, you may have very, very different results of a fitness for service analysis for the same products, for some of those kind of reasons; did we buy from the same manufacturers, was the pipe the same quality, was the installation methods the same, have we maintained it to the same level of, you know, keeping it up and replacing it and repairing it on time, and I would argue the answer is probably no.

We probably did all those things a little different, so in the end, we come to different conclusions, even though we may use a very similar process. So I hope that

clarifies what I really intended.

CHAIRPERSON GARDNER: That's actually very helpful. Thank you.

MS. FLECK: Thank you.

DR. FEIGEL: I've behaved myself pretty much this morning --

MR. WIESE: Some people will take issue with that.

DR. FEIGEL: Let me drop the controversy bomb. Chad, how much thought has been given to developing probabilistic failure models? I mean, you're focused on, sort of, the classic, not exclusively, and I don't understand, in detail, what all you're doing, but you're focused, to a great extent, on hydrostatic tests, to a greater or lesser extent, on inline testing.

I think there's this, maybe, unfounded belief simply because they're the classic tools that they, in fact, may be more productive, or whatever the right word is, than looking at data that has been collected

where you have collected it from other lines and applying that on a model basis to lines that you're trying to investigate.

There's a great aversion to that, of course, because we're not looking at it, we're not hammering on it, we're just computer modeling it, but I am more and more convinced that that may be an avenue that, in fact, could be fairly fruitful.

MR. ZAMARIN: Those are very fair and good comments. What I think INGAA has tried to offer is a solution to the near-term issue and balance, not just the technical opportunities, but also the realities of the stakeholder expectations, the regulatory framework, the fact that it's not just a technical solution, and that there is some of that, not only from the operator's perspective, but from the regulator's perspective, the public stakeholder's perspective that, you know, having a definitive pressure test has some, you know,

significant value.

What we've tried to propose is addressing the most -- our model tries to address the highest risk issues in a relatively quick manner with relatively well-established methodologies, pressure testing, inline inspection, to a little bit of a lesser degree, but we have said that a longer term solution is needed for the rest of the inner state mileage.

That's actually a fairly small percentage, that initial percentage, that hasn't been upgraded through class location changes or other, you know, solutions, but there is a tremendous amount of pipe. If this is a path towards bringing all pipe up to a common level of, at least MAOP, qualifying the initial MAOP, we recognize the need to get a lot more sophisticated for the much broader base of the infrastructure.

And we have initiated a technology development effort and we're kicking that off,

and there's some good information about that effort. We've been engaging with PHMSA, some significant funding that we're asking from the inner state industry, and probabilistic modeling, advancing inline inspection technologies, those are going to be the types of solutions we hope we can bring to bear, but we recognize that, in the short term, we're going to have to deal with the HCAs, the Class-III and IVs, and we're likely going to have to do that with some pretty well-accepted, established, technologies.

Does that answer the question?

DR. FEIGEL: Yes, it does, I guess, with one caveat. Is INGAA really convinced that the classic hydro tests do what we have, for a long time, believe that they do? I personally am unconvinced, but I understand. It is the politically correct, and not technically, off-based answer, but I think, like so many things, we've always done it this way and there's this public faith in

it that may not be totally technically founded.

MR. ZAMARIN: And I agree. I think we believe there are better tools and some may yet to be tapped, or fully developed. Certainly, our emphasis on alternative technologies is important because we see it as giving us more information about the infrastructure than a pressure test does, about, you know, identifying conditions that may exist that wouldn't metastasize in hydrostatic test failure, and allowing us to deal with those long before they would.

And so I think INGAA strongly recognizes that a pressure test is a very blunt solution, with some technical limitations, and some potential downsides to our infrastructure, versus some much more sophisticated capabilities, but I think it's up to us to demonstrate those capabilities, conserve an equivalent, or better, outcome.

And I think, as INGAA, we can be

honest and say, I'm not sure we've fully done that yet for establishing MAOP and getting everyone's confidence in that as a solution. That's really what our hope is in this effort.

CHAIRPERSON GARDNER: In addition to questions and comments from the committee, we'll open up the floor, also, to the public. Nevermind.

MR. KUPREWICZ: Thank you for the opportunity. I'll be a little more nicer this time. You do have a role model of an example of a system that has worked. I've seen a couple cases now where, clearly, the operators have gotten it in front of the PUC Commissions of various states, and I've seen a few examples where, clearly, the operators of the gas companies, distribution companies, did not get it, and that's the DIMP.

That process involved some sort of understanding and compromise, and it wasn't any extremes, whether the public or the industry, but from what I've seen in the test

cases under oath I've had to testify to, there are companies who clearly get the DIMP process. So you ought to feel like there's an example where you can make things work.

I'm not saying that we expect perfection. If you just complied with the DIMP regulation, you could get into trouble, but clearly, there are operators who have been implementing the DIMP concepts well-before federal regulation. I codified that into a little clearer standard position.

So that's a positive statement. It also gives the PUC Commissioners of various states a powerful tool to try to understand where the risks are in the various systems that are going to be different, as you heard this morning. So that's a positive. So I'd like to leave this on a positive note.

There are grounds in-between the extremes and sometime they may take a while. DIMP took quite a lot longer than everybody really probably wanted, but I think the

quality of the product reflects that from my personal opinion. Anyway, I'll leave that on a positive note. Thank you, Mr. Chairman.

CHAIRPERSON GARDNER: It is my extreme pleasure to bring this meeting to almost a close, unless there are additional questions from the public, or comments, because, certainly, I would like for everybody to have the opportunity to speak in the next 30 seconds.

And Cheryl didn't give me any notes about how to close off the meeting, but I guess I'll officially bring the meeting to a close. However, Mr. Weiss has a few words to share with you before we leave.

MR. WIESE: Okay. Thank you very much, Wayne. I'll make mine mercifully short. I have only two things I want to do. I want to say thanks to a few people if you'll indulge me. I want to thank the presenters, in particular, the last panel. I'd like to also thank Max, and Pat, and Sam Hall for your

time, and they've done this twice now.

I do like joint session myself. You know, I think it's more interesting, but the committees continue to want to meet separately and there are times when we need to try to not do that to my people, make them do multiple presentations, but I wanted to thank the presenters.

I also wanted to thank John, and Cameron, and Dana, and Cheryl for helping us on a regular basis, make sure the committee meetings come off. The committee members themselves, welcome, again, to the new members. Again, the votes are almost more interesting, aren't they?

But we'll have a lot of work to do between now and next fall, so we may have more than the normal number of meetings. We're trying to get our ducks in a row for IMP2.0. I thank the public, as always, for taking time to come out and join us. Reiterate that the information -- we transcribe these. It's a

fairly formal meetings for a reason.

There are a lot of people who can't make it. The pressure's on me from my public affairs people to webcast these meetings, and we probably webcast a dozen meetings a year, but, you know, they're not cheap, and like Tweets, it has a, kind of, influence on people's behavior.

So I guess I will close with that, unless I'm forgetting anything there, by wishing you safe travels and happy holidays to all of you. Thank you for coming.

(Whereupon, the meeting in the above-entitled matter was concluded at 11:53 a.m.)

G

C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Gas Pipeline Advisory Committee

Before: Pipeline and Hazardous Materials Safety Admin.

Date: 12-13-12

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