

U.S. Chemical Safety and Hazard Investigations Board

Business Meeting

January 25, 2017

CSB Headquarters Office - Washington, DC

U.S. CHEMICAL SAFETY BOARD MEMBERS PRESENT:

VANESSA ALLEN SUTHERLAND, CHAIR

MANNY EHRLICH, MEMBER

RICK ENGLER, MEMBER

KRISTEN KULINOWSKI, MEMBER

STAFF PRESENT:

KARA WENZEL, ACTING GENERAL COUNSEL

OPERATOR: Hello and welcome to the CSB business meeting. My name is Jason and I will be your operator. At this time, all participants are in a listen only mode. Later we will conduct a public comments session. Please note that this conference is being recorded. I will now turn the call over to Chairperson Vanessa Allen Sutherland. You may begin.

VANESSA ALLEN SUTHERLAND: Good afternoon and welcome to this business meeting of the U.S. Chemical Safety & Hazard Investigation Board or the CSB. Today, we are meeting in open session, as required by the Government Sunshine Act, and we will discuss operations and agency activities of the CSB.

I am Vanessa Allen Sutherland, Chairperson and CEO of the Chemical Safety Board and joining me today are Members Ehrlich, Kulinowski, and Engler. Also joining is our Acting General Counsel, Kara Wenzel, and members of our staff are in the room as well.

The CSB is an independent, non-regulatory federal agency that investigates major chemical accidents at fixed facilities. The investigations examine all aspects of chemical incidents, including physical causes related to equipment design as well as inadequacies in regulations, industry standards, and safety management systems. Ultimately, we issue safety recommendations, which many in the room

are familiar with. Those are designed to prevent similar incidents in the future.

I will now share today's agenda. First, the Board will give an update on investigations and studies, recommendations and deployments. Next we will provide an overview of ongoing IG or Inspector General audits and then a financial update.

For the portion of the meeting for new business, we will be releasing the agency's latest safety video entitled "Blocked In" and Member Kulinowski will introduce that particular investigation. The video is available on our website currently. For those who are on the phone, if you are in front of a computer, you can go to www.csb.gov and on our YouTube Channel, to see the video which will be played at the end of the meeting. We will play the video live here in the room and for those on the phone, you will get an introduction as to when we are about to start.

I'm also pleased to announce that the CSB is about to release its latest Fiscal 16...Fiscal Year 16 Impact Report. And that can also be found on our website. We will eventually have hard copies to disseminate to those who are interested but if you want to get a preview of that Impact Report, please visit CSB.gov.

If you are in the room and wish to make a public comment, please sign up using the yellow sheets that were on the

registration table when you came in. There was a table right outside of this room for a sign-up sheet. And for those on the phone, you can submit a comment by emailing meeting@csb.gov to be included in the official record.

Before we begin, I'd like to point out safety information. Please take a moment to note the locations of the exits at the side and back of the room. There's a door near where the Board Members are seated. But if you go to the glass doors through which you entered our office, there are two exist on the left and right, marked by red exit signs, and those take you to the stairs that go down to the first floor.

I would also please ask that you mute or silence your phones, vibrate or anything else, so that the proceedings are not disturbed.

Thank you for that. Do my members have any other introductory remarks before we start with opening statements?

MEMBER EHRLICH: I have none, thank you.

MEMBER KULINOWSKI: I do not.

VANESSA ALLEN SUTHERLAND: Thank you then. So first, thank you to everyone for attending. I know luckily today it's not raining. So I appreciate you making the trek out to the meeting, to attend physically here. And I'd like to welcome everyone on the

phone as well to our second public business meeting of Fiscal Year 2017. I'm pleased to be able to share updates on our progress and activities over the last couple of months. And I would like to turn to my fellow Board Members for any opening statements that they may have. Member Ehrlich?

MEMBER EHRLICH: Thank you, Madam Chairperson. I just would like to say thank you for coming. I think we had a very productive year last year and look forward to a very productive year this year.

VANESSA ALLEN SUTHERLAND: Thank you. Member Kulinowski?

MEMBER KULINOWSKI: He said it best. Nothing to add.

VANESSA ALLEN SUTHERLAND: Member Engler? Okay. At this time, the, the individual Board Members will provide an update on our ongoing investigations. I will now ask Member Ehrlich to provide an update on DuPont LaPorte and the MGP Ingredients investigations.

MEMBER EHRLICH: Okay. Thank you, Madam Chairperson.

On November 15, 2014, nearly 24,000 pounds of methyl mercaptan was released at the DuPont Chemical manufacturing facility in LaPorte, Texas. The release resulted in the deaths of three operators and a shift supervisor inside an enclosed manufacturing building. Additionally, three other workers were injured from

their exposure to methyl mercaptan and at least three more workers experienced methyl mercaptan exposure symptoms.

With the announced closure of the LaPorte facility, the final investigation report will focus on broader issues, broader lessons learned, and identify corporate process safety management issues. The investigation team continues to follow-up on a number of outstanding record requests with DuPont.

The second incident I'd like to cover is one that occurred on October 24th... I'm sorry 21st, in a facility called MGPI Processing in Atchison, Kansas. MGPI produces distilled spirits and specialty wheat proteins and starches. The release occurred when a chemical delivery truck owned and operated by Harcros Chemicals was inadvertently connected to a tank containing an incompatible material. The plume generated by the chemical reaction led to a shelter-in-place order for thousands of residents and at least 120 employees and members of the public sought medical attention.

CSB investigators have collected samples of chemicals involved in the incident and finalized performance work statements for analytical testing of the samples. The team is also in the process of arranging for the examination and testing of equipment obtained from the site. The team is currently reviewing a number of

documents received from MGPI Processing and other entities and is in the process of gathering information about similar incidents.

VANESSA ALLEN SUTHERLAND: Thank you, Member Ehrlich. Member Engler?

MEMBER ENGLER: Thank you, Chair Sutherland. I'll be reporting on three oil refinery ongoing investigations. First, at ExxonMobil in Torrance, California.

This is an investigation from February 18, 2015 when an incident occurred, specifically an explosion, in the electrostatic precipitator, [inaudible] control device in the refinery. The explosion injured four workers, caused significant property damage to multiple process units, and resulted in offsite release of catalyst dust. In addition, debris from the electrostatic precipitator fell on some neighboring units within the refinery, including the alkylation unit.

After the explosion, there was also a near-miss release of hydrofluoric acid when a large piece of debris fell close to the storage vessel containing thousands of gallons of HF. If the storage vessel had failed due to the impact of this debris following the explosion, the HFS would have been released. And more information about this investigation is on our website based

on the interim public meetings that we had some time ago. So there is further preliminary information to be found there.

The status of the investigation is that the team has generated a draft report which is under review internally by the Board as well as external stakeholders. The team anticipates having a draft report ready for Board voting by Spring, 2017.

Also, the CSB continues to work with the Department of Justice to enforce subpoenas related to the HF near miss.

The second refinery investigation is at ExxonMobil in Baton Rouge, Louisiana. On November 22, 2016, a flammable vapor cloud ignited in the sulfuric acid alkylation unit of the ExxonMobil Baton Rouge refinery. The fire seriously injured four workers and caused property damage to the alkylation unit. The flammable vapor isobutane was released from process piping when a valve failed while operators were preparing for maintenance activities. The isobutane reached an ignition source soon after the release while four workers were in the vapor cloud. The fire burned for about 15 minutes and then was subsequently contained.

The status is, of this investigation, that the team has completed its initial deployment stage and is currently developing the report for internal review.

Finally, at the Delaware City Refining Company in Delaware City, Delaware, in November 2015 there was a flash fire while operations personnel were preparing the equipment for maintenance. An operator at the facility supporting this activity suffered second and third degree burns. Two previous incidents had occurred at the refinery in August 2015. Coupled with the November 29th incident, these incidents formed the rationale for the decision to dispatch a small investigative team to investigate the most recent events.

And the status for this investigation is that the team is nearing completion of the final product, which in this case will be a safety bulletin as opposed to a full report. The draft document will be reviewed by union and company officials. Following review of their comments, the document will be edited and then will proceed to a Board vote.

Thank you, Chair Sutherland.

VANESSA ALLEN SUTHERLAND: Thank you, Member Engler. And next is Member Kulinowski to provide two updates as well.

MEMBER KULINOWSKI: The first update I will provide is on flammable gas release and subsequent fire and explosions that occurred at the Enterprise Products Pascagoula Gas Plant in Moss Point, Mississippi on June 27, 2016.

The incident occurred in a cryogenic process line which takes natural gas received via pipeline from offshore and separates it into natural gas liquids such as propane and butane and residual natural gas, methane. Those products are either commercially sold or transferred through another pipeline for further processing at different facilities.

Enterprise assumed full ownership of the site just four weeks prior to the incident. Before that time, the site was majority-owned by BP. There are numerous gas plant installations similar to the Pascagoula gas plant across the country in regions where oil and gas are produced.

The team has been working diligently. Multiple pieces of physical evidence including several braced[?] aluminum heat exchangers have been relocated from the site for further laboratory examination and testing, including metallurgical failure analysis. And this testing will be underway shortly.

The team continues to analyze process data from the site and to review records received from Enterprise, BP, and other relevant parties.

And next a brief update on the Freedom Industries investigation. Just to remind you of the incident, on Thursday, January 9, 2014, an aboveground storage tank owned by Freedom

Industries leaked its content into the Elk River. This release disrupted the delivery of potable water to more than 300,000 consumers in the Charleston service area when the material was drawn into the intake system for West Virginia American Water. A do-not-use order was initiated by the government.

Followers of the CSB will remember that the investigation team presented its final report for Board vote at a public meeting in Charleston, West Virginia on September 28, 2016. At that meeting, a motion was made and approved by the Board to consider further public comment and 48 hours was given to provide such comment.

Due to the volume of public comments received, the CSB is still reviewing the submissions and is expected to produce an updated version of the report in the near future. We also received a formal petition for correction of the report and will be issuing a response to the petition very soon. We're putting the finishing touches on that.

VANESSA ALLEN SUTHERLAND: Thank you, Member Kulinowski. I will provide two updates as well. The first is for Sunoco in Nederland, Texas.

On August 12, 2016, seven workers were injured, three of them critically, at the Sunoco Logistics Partners, which was a terminal facility in Nederland, Texas. The incident involved a flash fire

during welding. And that's also referred to as hot work by us. I visited the site shortly after the incident and look forward to the report.

Current status of that work is the CSB's DC investigation team is moving forward with ongoing investigative activities, including interviews. The team continues to review documents, transcripts, and develop interview summaries and continues work on a logic tree. A draft report is currently being developed, and we should be able to start the review process in the next few months. And we're looking forward to that.

Lastly is Airgas. On Sunday, August 28, 2016, an explosion occurred at the Nitrous Oxide Corporation, a subsidiary of Airgas Nitrous Oxide manufacturing facility in Cantonment, Florida. The one Nitrous Oxide Corporation employee that was present at the time was fatally injured and actually died at the scene. The explosion also heavily damaged the facility and halted all manufacturing operations at that facility. At the time of the incident, Air Liquide affiliates owned and operated all five nitrous oxide manufacturing plants in North America. Air Liquide acquired Airgas in May of 2016.

Of the five nitrous oxide manufacturing facilities in North America, only the Florida facility uses byproduct gas from a nylon

manufacturing process to produce the nitrous oxide. The other four all use ammonia nitrate decomposition technology. So having a unique nitrous oxygen technology at this site does not limit the potential for this incident, however, to result in meaningful safety lessons for broader manufacturing facilities.

The incident occurred in the tank truck loading area. But this incident could have broader applicability, as I just mentioned, as all five nitrous oxide manufacturing plants likely have truck loading facilities.

The status of the team's work is that the investigation team has developed a draft report which is under review by both internal and external stakeholders.

We do not currently have any studies underway so our agenda is going to progress straight to the recommendations update for the agency.

First, the Federal Emergency Management Agency received recommendations from us as a follow-up to the West Fertilizer investigation. In January 2017, the Board voted to approve the status change for four recommendations to FEMA from the CSB's West Fertilizer Investigation.

We voted to designate two recommendations as "Closed - Exceeds Recommended Action" indicating that FEMA has done a great job and

gone above and beyond what was originally expected by those recommendations. In short, FEMA awarded two grants of one million dollars each to two grant recipients - Georgia Tech Research Institute, or GTRI, and the International Association of Fire Fighters, or IAFF. Those grants were to develop and deliver HAZMAT training that focuses on fertilizer grade ammonia nitrate hazards in accordance with the CSB's recommendations.

The two other recommendations regarding the implementation of the training programs were moved to "Open - Acceptable" status, as FEMA has started implementing the program and has shown a willingness to see these recommendations through to completion.

Further, FEMA actioned this grant award in less than a year from the issuance of the CSB's original recommendation. Which I have to say as a sub-note, it's a pretty remarkable effort for a government agency of that size with a lot of people who are interested in providing input and executing on the recommendations. So we definitely were pleased by that footnote.

We were extremely impressed, not only with that speed, but their responsiveness, the responsiveness to which FEMA addressed our recommendation and their adoption of the lessons learned from the West investigation.

Next, in our Driver of Critical Chemical Safety Change management, which many of you who've been following the CSB will know we've changed the title of our program from the Most Wanted List to the Critical Drivers list. We have updated that for safe hot work practices. As a result of continued incidents involving hot work, we voted to add safe hot work practices to our Drivers of Critical Chemical Safety Change List. I'm going to call that the CDL for short, Critical Drivers List.

The CSB hopes that adding safe hot work practices to our CDL will elevate the issue of promoting adherence to established safe hot work practices. Hot work is defined as burning, welding, or similar spark-producing operations that can ignite fires and explosions. Hot work accidents occur throughout many industries in the U.S., including food processing, pulp and paper manufacturing, oil production, fuel storage, and waste treatment. You just heard me mention one of them in Sunoco.

Most hot work incidents result in the ignition of combustible materials, for example a roofing fire or the ignition of structures or debris that are near the hot work.

Although the hazards of hot work are well established and both regulatory and good-practice guidance exist, frequent deaths and serious injuries continue to occur in the hot work-related fires

and explosions that we see. The CSB has found that hot work is one of the most common causes of worker death among incidents it investigates.

One of the CSB's early investigations, the Motiva Enterprises Refinery explosion in Delaware City, Delaware, resulted in the death of one contractor and injured eight others. The explosion occurred when flammable hydrocarbons from a sulfuric acid tank were ignited by welding sparks. In the years following, the CSB has deployed to multiple hot work incidents, several of which resulted in investigation reports. More recently, as I mentioned at Sunoco Logistics, a terminal facility in Nederland, that resulted in the injury of seven workers.

Recognizing the persistence of hot work incidents, specifically on tanks and containers, the CSB's Office of Incident Screening and Selection began collecting more information on these incidents. We have collected data on 85 explosive hot work incidents between 2010 and 2013 and we published a Safety Bulletin entitled *Seven Key Lessons to Prevent Worker Deaths during Hot Work in and Around Tanks*.

The CSB's full list of investigations of hot work incidents can be found on our website under the Drivers of Critical Safety Change tag, the page that you can link to, to see all four of our

current CDL items. The justification for adding hot work is also on the CSB website, under the open government page.

Generally, we wanted to also provide statistics on our current status or recommendations. We currently has a ratio of 77%, which is 608, for those who want the hard number of recommendations closed and 23% in open status, which is about 180 numerically. We have a total of 788 recommendations that's how we calculate the 77% closed and 23% open status. The status of all of those recommendations, by the way, is also on our website if you go to csb.gov/recommendations.

The recommendations that have been recently voted on can be found on, and their status update, will also be found at that section of our website. It describes the rationale for the Board vote and why we closed or chose to close or change the status of a particular recommendation.

To date, in fiscal year 2017, the CSB has already closed 16 recommendations. Five were closed acceptably, including two which I just a moment ago just described exceeded our expectations. Four were closed unacceptably. Six were closed as no longer applicable. And one was closed as reconsider or superseded.

So far in fiscal year 2017, the Board has voted on the status of 20 recommendations, in addition to the 16 I just mentioned.

Three were moved from open awaiting status to open acceptable. One was moved from open awaiting status to open unacceptable. And the recommendations that were voted on were from the following investigations. Improving Reactive Hazard Management, there was one. Third Coast, there was one. CAI/Arnel investigation, there was one. NDK Crystal, there were four. Tesoro Anacortes in Washington State, there were three. Hoeganaes, there was one. Chevron Refinery Fire in California, there were three. West Fertilizer, four. And Freedom Industries, one.

I will now ask if the Board members have any additional comments or thoughts on these recommendations. Member Ehrlich?

MEMBER EHRLICH: No, ma'am, I don't. Thank you.

VANESSA ALLEN SUTHERLAND: Member Engler?

MEMBER ENGLER: Yes, I do. And the comment is essentially for the purpose of ensuring that the public understands the rationale for my dissent in one of these notation items. So I have a statement to that effect.

In 2002, after major incidents involving runaway chemical reactions, the CSB undertook a study of reactive chemical hazard management in the United States. One recommendation that resulted from our investigation in this study was that the American Chemistry Council and I quote, "Develop and implement a program for

reporting reactive incidents that includes the sharing of safety knowledge and lessons learned with their membership, the public, and government, to improve safety system performance and prevent future incidents."

On January 11, 2017, the Board, through a notation item, changed the status of this recommendation to closed, reconsidered/superseded. I voted against this specific status change and explained why in my eight-page dissenting opinion to notation item 2017-4. If you're interested in the Board's work on reactive chemical hazards and the extensive prior Board discussion of this issue, which I'm not trying to initiate at the moment, please visit our website recommendations section. My dissenting opinion as well as recent status change votes on this as well as other recommendations are also on our website under Open Government, and then you go to the Board Votes section.

Thank you, Chair Sutherland.

VANESSA ALLEN SUTHERLAND: Thank you, Member Engler. Member Kulinowski?

MEMBER KULINOWSKI: Nothing right now.

VANESSA ALLEN SUTHERLAND: We will now move from the recommendations updates to Inspector General updates. And I just want to say, not part of my prepared remarks, that we very much

appreciate the great relationship we've had with the IG over the last year and a half. I've been here since August of 2015. When I got here, we had a very long list of open investigations and I have very much appreciated not only learning about those but working collaboratively with them to close many of those out, for anyone who's here.

On January 23, 2017, the CSB... As of January 23, 2017, the CSB is currently working with the Office of Inspector General... For those who don't know, we don't have our own IG. It's through the Environmental Protection Agency. So if you hear me refer to them as the EPA IG, that is why. We've been working on one audit and awaiting feedback on a January 17th letter to the IG regarding three other items. The status of our audits are as follows. There are two.

The first update is the CSB's Improper Payments Elimination and Recovery Act Audit. The CSB received notification on November 4, 2016 regarding this audit. We provided all requested documentation and the OIG expects to complete all audit field work this month and to start reporting...the reporting phase by the end of January. To date, the EPA IG reports no issues or findings in this particular audit.

The second is open recommendation letter to the OIG on January 17, 2017. The CSB sent a letter to the Honorable Arthur Elkins on January 17, 2017, addressing three open recommendations that the CSB no longer tracks, including, number one, publishing a regulation requiring persons to report chemical incidents. Number two, following up with Congress for clarification of CSB's statutory authority or mandate. And, three, revising Board Order 28 to document the role and responsibility of the managing director position. The last recommendation was addressed in a November 18, 2015, email and is closed. And we will continue to work to coordinate with the EPA IG on the other two matters.

On January 5, 2017, the OIG sent a notification letter regarding upcoming work to identify and update their list of proposed key management challenges and internal control weaknesses facing the CSB. This is an annual audit. And an entrance meeting will be scheduled in the near future.

On our finance update, there's not a lot that has changed since our last public meeting. The CSB, like most government agencies, is operating under a continuing resolution, and that CR ends April 28, 2017. We have received \$6.3 million in funding through that period, which is being allocated to ensure investigations, recommendations, and outreach work continues.

The funding levels will be finalized when the new Congress and new Administration pass a full year appropriation bill. The CSB is hopeful that we will receive the \$11 million that the House and Senate recommended last year and are making prudent spending decisions while we're developing plans to efficiently and effectively spend full year funding once received. But obviously being mindful that we don't have a guarantee to receive the \$11 million.

I would now like to turn the meeting over to Member Kulinowski for our new business portion of the meeting. Member Kulinowski?

MEMBER KULINOWSKI: Thank you, Chair Sutherland. The new business portion will be the formal release of the CSB's latest safety video entitled "Blocked In." The video details the fatal explosion and fire that occurred in June 13, 2013, at the Williams Olefins Plant in Geismar, Louisiana, which killed two employees.

The CSB's final report, released at a news conference in Baton Rouge in October of 2016, concluded that process safety management program deficiencies at the Williams Geismar facility during the 12 years leading to the incident allowed a type of heat exchanger called a reboiler to be unprotected from overpressure, and ultimately rupture, causing the explosion.

The CSB's video includes interviews with our investigators as well as a 3D animation detailing the events that led to this tragic event. We will now play the video for those in the room. And those on the phone can play the video from our YouTube channel which is linked from the CSB's homepage at www.csb.gov.

["Blocked In" video is played]

MEMBER KULINOWSKI: I'll now turn the meeting back to Chair Sutherland.

VANESSA ALLEN SUTHERLAND: Thank you, Member Kulinowski.

Before we continue with the public comments here, I want to first say thank you to the investigation and public affairs team. You guys are getting our preview. I feel [inaudible]. But they did yet another great job of translating fairly complex material into a very digestible and I hope what will be very useful video for those who are trying to implement these type of significant changes at their facility.

So thank you to our public affairs team and the investigation team who always surprise, I'll say at least definitely the Board members, with their ability to really synthesize a lot of information into 10 or 12 minutes that I hope prove to be meaningful to you all.

So at this time, I would like to open the floor for public comment related to the CSB's activities, anything that you've heard today, or that you have a question about. For those in the room, I mentioned using the yellow form. If you haven't signed up, you still can or you can simply raise your hand in the room. For those who are on the phone, if you joined later, you can submit a comment by using meeting@csb.gov. Your email comments will come straight to us and someone will bring them to the Board to address. Thank you for the submissions that we have so far.

So I will start with those in the room. It's easier for me to see them. Are there any questions or comments from those who are in the room? If not, I'm going to start with...one, two, three questions. This question was submitted by Jeff Johnson at CNE[?] News. And because there are three separate questions that cover three different topics, I will read the question for everyone here and on the phone and then I will walk down the dais for any member comments or response.

The first question is, "The South Coast Air Quality Management District in California is planning to propose a phase-out of the use of hydrofluoric acid by two southern California refineries. Is CSB involved in this proposal or does it plan to be involved in this proposal? Any reactions?"

So I'll start and then I will go down the line. Thank you for the question, Jeff. No, we are... Let me say that differently. We are broadly involved in the process safety management improvements that underway in California at the moment. And, as many of you know, not just from our interim public meeting with ExxonMobil, but our ongoing follow-up on the Chevron refinery incident that happened in 2012, which resulted in many very specific recommendations to California, the State of California, we continue to support that effort. Process safety management modernization is on our Critical Drivers List and California happens to be at the leading edge at the moment in developing process safety management regulatory updates.

We don't know what the final format of that is going to be. They have gone through a very lengthy process of drafting and receiving comments, holding a public hearing, actually more than one, and they are now as a State, taking a stock of all the comments that have been provided and will ultimately issue a regulation. We don't have a specific date by which they're going to do that so I can't comment on what those are going to look like.

As far as proposal to phase out or ultimately restrict or ban the use of hydrofluoric acid, I will say that we have been, in the ExxonMobil Torrance investigation, concerned about the near miss

and the potential that the debris from the electrostatic precipitator explosion may have hit or was a near miss to the alky unit, which stores hydrofluoric acid. But we have not done in depth data or in depth analysis about phase out, restrictions, prohibitions of hydrofluoric acid.

So I'm going to answer the first part of this. Are we involved in their proposal? No. I presume involved might mean helping to draft or review or frame, so if that's... And, Jeff, if you're on the line, you can certainly clarify this question. But if that is the answer, then no.

And I will ask Members Ehrlich, Kulinowski, and Engler if they have other comments related to that. I know we've talked a lot about Exxon and HF, but any other comments? Member Ehrlich?

MEMBER EHRLICH: No, thank you, Madam Chairperson.

VANESSA ALLEN SUTHERLAND: Member Kulinowski?

MEMBER KULINOWSKI: I think that you said the focus of the CSB right now is on looking at the ExxonMobil existing investigation reports that we have in our hands and also considering the pursuit of the near miss so that we can wrap the entire investigation up. That's where our focus is right now.

VANESSA ALLEN SUTHERLAND: And Member Engler?

MEMBER ENGLER: And just to be crystal clear, the Board has not taken a position on the specific merits for or against, nor submitted any form of position paper or testimony on this proposed poly by...in California.

VANESSA ALLEN SUTHERLAND: Correct.

MEMBER EHRLICH: I changed my mind, thank you.

VANESSA ALLEN SUTHERLAND: Member Ehrlich.

MEMBER EHRLICH: The Chair and I visited the refineries in December last year?

VANESSA ALLEN SUTHERLAND: December.

MEMBER EHRLICH: And had a very excellent conversation with them about the regulations going forward based on a lot of the work that Member Engler has done and relationships that he's established. We plan to maintain that relationship and they keep us very well informed of...of the progress there being made and they may seek opinions, but I don't have anything else to add beyond that except that we have a very good level of trust there.

VANESSA ALLEN SUTHERLAND: Thank you for adding that. The second question is, "Has the CSB had any interactions with the Trump administration?"

Sort of. I'm not trying to characterize it so I'll sort of share. They had a PETT team, which is the Presidential Elect's

Transition Team, nicknamed PETT, P-E-T-T. I participated on many of the PETT calls with my Federal brethren, mostly the small, micro-small, and medium-sized agencies. If you have... If you happen to be near a computer and you look at the Small Agency Council, it lists almost all of the agencies that are in our bucket, that are sort of similarly situated to us.

We participated in the Obama administration's transition team and the PETT team, which was the Trump Presidential Elect Transition Team, joint calls to discuss things like who was going to be on the landing teams or [inaudible] team, whichever term you want to use, for larger entities and generally how they were going to approach things like obtaining information about federal agency operations, specific agencies' work, possible Commissioner or Board nominations in the future. But it was all very high level.

So I don't know if that's interaction but certainly we were a part of the broader federal agency transition process.

Third question was, "When will CSB respond to Philip Price's petition and other requests for review of CSB's Freedom Industries report. Please be specific." Member Kulinowski?

MEMBER KULINOWSKI: Well, as I mentioned before...maybe I was a little vague, just to provide a little bit of wiggle room. The decision is deadlined for our response according to our Data

Quality Guidelines is today. And we are putting the final I's and T's, dotting the I's and crossing the T's, on that document today. And we expect it to be released by midnight tonight.

As far as the report and the responses to the other petition...other comments that we received during the public comment period, that is making sure that the information that we've gathered in response to the petitioner is reflected in the revised report and I cannot put a date on that for you today. But there...we're working very hard to get that out as soon as possible. That's as specific as I can be today.

VANESSA ALLEN SUTHERLAND: Thank you, Member Kulinowski. And thank you, Jeff Johnson, for those questions. Operator, you can open the line. I don't know if there are any other comments or questions. And I will ask our Board Affairs Team if we have any other email comments.

OPERATOR: Thank you. If you'd like to ask a question or comment over the phone, please press *1. And we do have a question from Fred Millar, from...a hazmat consultant. Fred, your line is open.

FRED MILLAR: Hi, this is Fred Millar. I actually made a presentation earlier in October about the problem of the risk minimization effort that's going on from the chlorine and chemical

[inaudible] railroads in terms of the dangers of...of chlorine tank cars and other TIH[?] poison gas cargoes. It turns out that there's some new developments I think the Board might want to look at. And I did submit a written comment for the record.

But I'll just summarize by saying that there are...there's some new evidence from the chemical facilities around the country. These are fixed facilities which have to report under the EPA's RMP regulations so it's not a question of transportation at this point. But these are fixed facilities that have railroad tank cars of chlorine on their site. And so they have to report that as the largest toxic vessel on the site under the RMP regulations. And in the past, these facilities had been reporting that their off-site consequence analysis indicates that a chlorine cloud under the worst case scenarios specified by US EPA would go downwind predictably...you know, the estimate is 13 or 14 miles downwind. Now, that's very consistent with the gas[?] line that's been...that's been in existence over the years and with the various federal guidance documents, including the ERG and ALOHA and so forth.

But recently, given that there's been this real push by the chlorine industry and the railroads to develop this new gas science that is a very risk minimizing effort, the...the...two facilities, one in California, one in Delaware that we have so far, have...have

submitted RMP documents for their chlorine tank cars that say that the...that instead of the clouds going 13 and 14 miles downwind and impacting respectively 360,000 people or 480,000 people in the other case, in terms of the vulnerable zones around these facilities, that instead the...the...the worst case scenario, using the Chlorine Institute's own model...and they have to cite that in their RMP documents. Using the Chlorine Institute's model, the cloud will only go either .3 or .5 miles and impact nobody. In other words, it doesn't get off the site into any residential populations. And so instead of 480,000 or 360,000, it is zero.

Now, that's not a very credible result and it's certainly not very good in terms of the overall progress of...of using gas science in terms of estimating risk, just as a general policy matter.

But, in any case, the main thing is that there seems to be...there's already some evidence that the...that the chlorine industry's new gas model has been infiltrated into a major risk assessment process, which is the US EPA's process. It's also the case, by the way, that...that there's new information that the ALOHA Program that NOAA runs has also been infiltrated by this process, by this risk minimization effort, and that there are new models in ALOHA which are based on what's called a rail car model that was...that also comes out of this new risk minimization effort that

was laundered through the U.S. Department of Homeland Security and then laundered through the U.S. Military in terms of producing a gas science, which unfortunately, as far as I can tell, I can find no independent peer review of that science.

So we have a lot of serious problems about the...the origins and the provenance of this...of this model and...and it is...it is frankly quite incredibly to many emergency responders and fire chiefs that I've talked to. They...they're quite incredulous that somebody would say a few years ago...a couple years ago that a cloud goes 15 miles downwind and now you're telling me it's .2 miles.

I think the Board could have an important impact here in terms of...of, first of all, pressing for a lot of background information. The information is being withheld by the people who have it, which include people in US DHS and people in the U.S. Military. Not the Chlorine Institute. They claim they don't have the data. It's been... All the calculations are based on what's called the Chemical Security Analysis Center which is in Aberdeen, Maryland, part of the US DOD and US D... It's a US DHS facility there. And then some of it's been done at the...at the center at Dahlgren, Virginia as well with the NAVSEA, the Naval Service Weapons Center there.

So basically this is...this is something that impacts several federal agencies, including US EPA and NOAA and NDOD and the EPA.

And so I think that it would be very useful if the Board could take an overall kind of a watchdog role on this and help us to figure out...you know what...how far has this gone in terms of influencing various other federal programs, including the curriculum of the U.S. Fire Academy, etc.

The new...the new risk minimization effort that's been mounted is...granted, gas modeling is an uncertain science. There's a lot of... There's a lot of uncertainty in...in modeling. And the field testing that's been done predictably has been done in a way that seems quite biased to show that your model is correct, which is that the cloud's not going to go anywhere. It's just going to sit there as kind of a big pancake. Let's call it a mist pool. And not impact people very far away.

This is... I've already had...had expressions of concern from community emergency responders that...that this is...this is not a very happy situation in terms of the potential for reducing the concern that communities and...and local officials might have for...for cargoes that are poison gas cargoes. And we're not talking only about chlorine. The folks that are pushing this effort fully intend to recalculate the risks of 17 of the...they have a list of 17 of the most commonly transported poison gas cargoes. And many of them, as I say are the...the most dangerous chemical container on a plant site

so that they have to be reported under US EPA RMP program. So they're in transportation as well as on fixed facilities. And I think both the Board and the National Transportation Safety Board could have a very important oversight role into looking all this...looking into all this.

Thank you very much.

VANESSA ALLEN SUTHERLAND: Thank you, Mr. Millar. Obviously, we have public meetings so that we can always hear things of interest related to chemical safety. I'm also going to ask, as I respond to your statement and let you know that, yes, we did receive...the Board Members did receive the six or seven documents that you provided. And just as an update... I think you know this already, but as an update, we did forward your October 31st letter to the Pipeline and Hazardous Material Safety Administration as that many of those contents related to the ERG, the Emergency Response Guide for 2016.

And I think at the last public meeting we said we were certainly interested as a federal agency in participating in the larger government [inaudible] initiative. However, I'm going to ask that our Acting General Counsel also respond or co-respond to this, the documents, and to the submission because certainly you're identifying an issue that [inaudible] but we are very mindful of

not engaging in things that are outside of our authority. So, Acting General Counsel Wenzel?

ACTING GENERAL COUNSEL WENZEL: First, I want to say thanks for the comments. Certainly we try to stay abreast of all areas of concern that pop up in industries that we are involved with. But the Board really only has authority to initiate an investigation or a study after an accidental release occurs. And there are certain specific requirements of that to trigger our jurisdiction to go out and do something.

So on that note, while we can certainly address the concerns in an appropriate inter-government forum, as I think we have [inaudible]. I know certainly with outreach events and providing resources that we have. The Board cannot affirmatively take on a specific safety concern that is not triggered by an event for us to investigate and then report on the results or the findings and recommendations that come out of those.

VANESSA ALLEN SUTHERLAND: So, thank you, Mr. Millar. And definitely thank you for the time that you've put in and for attending our last meeting as well to raise these issues.

Operator, are there other calls in the queue?

OPERATOR: Once again, if you have a question or a comment, please press *1. We have a question from Paul Orem. Your line is open.

PAUL OREM: Yes, thank you, this is Paul Orem, consultant to public interest groups on many of these chemical safety issues.

Brief follow-up to Fred Millar's comments. I do hope you consider your authority to conduct safety studies prior to incidents carefully in...in reviewing the authorities that you have, which is in the statute.

But my question goes to reportedly Chevron Salt Lake City is converting to liquid ionic catalysts that will eliminate hydrofluoric acid and a big vulnerability zone that exists there over the next several years. So how is the Chemical Safety Board involved in tracking and documenting and communicating such successful adoption of technologies that substantially reduce or eliminate catastrophic chemical hazards such as Chevron in Salt Lake City reportedly intends to do?

It seems to me there's a very substantial public interest in communicating, documenting, and encouraging that kind of innovation that comes from chemical industry.

VANESSA ALLEN SUTHERLAND: Well, I will start. I think many of the Board Members...and luckily this is a Sunshine Act meeting so

we can talk and deliberate while we're here. But I'll start in response to that. And thank you very much, Mr. Orem, for that conversation.

We actually have done a lot of research, I can speak for all the Board Members, on understanding and developing a more technical...technically sound understanding of hydrofluoric acid, how and what applications use sulfuric acid, some of the new solid catalysts that are being developed and used as prototypes or in beta form around the world. We've had people come in and give us presentations on that. So we have a better understanding of what the landscape, meaning just from an operational perspective, who's using them, what are some of the issues that they're finding.

So we have been very interested in that. And I think, based on our new strategic plan, many of you know, the Board Members and the staff, for that matter, take very seriously having a leadership role in scientific rigor and continual learning and understanding what is the state of chemical safety today. So those learning opportunities are very well welcomed by us and we really appreciate them. I think it helps us inform the investigative work that we do, the outreach and advocacy that we're all interested in. And so we appreciate that.

We don't, as an independent, non-regulatory agency whose mission is to investigate root cause analyses and hopefully help prevent major catastrophic events in the future, we don't advocate for the prohibition, the endorsement, or anything in between of a particular chemical or particular process. So we do collect data and I think there are very rich opportunities for us going forward to figure out how the data we collect pursuant to our investigations can be used to be instructive or help inform some of these technology and R&D activities.

But our expertise is not to determine whether a new product, whether it be a solid catalyst or some other form, is better than something else. Because our expertise is to understand operationally how to manage risk. So I don't... I can certainly speak for the fact that I don't think, as an agency, we would say our role is to endorse new products. That's not what we do. But certainly welcome in this Sunshine Act forum thoughts from the other Members. Member Kulinowski.

MEMBER KULINOWSKI: I agree with that. I think it's very exciting to consider alternatives to existing processes and technologies that have the potential to really be safer processes, safer technologies, safer chemicals. I think that is within our...our mission and our mandate to look at that, not to endorse but

to call generally for safer processes and safer chemicals. That's our prevention mission really that we do.

So I'm excited about those things as a chemist. Excited about new ways of making these molecules do what we want them to do and processes that might be safer. And continue to...to take in information as the technology develops.

VANESSA ALLEN SUTHERLAND: Members Ehrlich or Engler?

MEMBER EHRLICH: I have nothing to add except I'll echo what Dr. Kulinowski said.

MEMBER ENGLER: I would just add that I think as a fundamental principle of inherently safer processes and technologies, a chemical substitution is at the very beginning of that process. It is often the most effective, even if it's sometimes the most expensive or sometimes it's not feasible or sometimes it involves risk shifting that has to be evaluated.

But nonetheless, that...that technology and...and chemical substitution are critical pieces of an assessment that has to be done in getting to primary prevention. Though I'm certainly not advocating for the endorsement of any commercial process whatsoever, I do think that the statutory mandate of the Board is pretty broad. And if we determine that, for example, if there was a major airborne release of asbestos, of which has largely been

eliminated in the United States or countries around the world as a matter of policy have decided to phase out or ban asbestos, it is in fact within our purview to address policy approaches that could look at that.

We look at the...the recently reformed Toxic Substance Control Act, which was revised after much cooperation by very diverse parties. It clearly reasserts the ability of the Environmental Protection Agency to be involved in the phase out of particular substances when it's found that there is an over...overriding concern about public health and safety based on sound science.

And I would argue that some of the same criteria would actually apply to us based on very specific situations that [inaudible] addressing. That is a matter of a general mandate. But when a safety risk does come before us, we need to look at all of the options in terms of moving the focus on prevention.

And one added note on hydrofluoric acid. Just this morning I had an internal conversation about actually having a Board briefing on the Chevron Salt Lake City process. We've had a number of internal briefings where we, as a Board, as a whole, have learned more about what is...what are the nature of the risks as well as benefits of alkylation processes within refineries. And the process that Mr. Orem referred to is actually not the focus of one

of those internal briefings. I think it would be a good idea for the Board to continue our internal educational process with some further learning about that particular pilot project in Utah.

VANESSA ALLEN SUTHERLAND: [inaudible] I think learning about any...all the pilot programs and adding that to the ones that we've heard about already would be great, that that type of comparative analysis and comparative discussion will be very helpful.

On the first part, because we don't really get a chance to deliberate outside of these meetings, is... I believe that the...that our advocacy and outreach and mission to drive chemical safety change is in and of itself broad. But policy changes without data have the same challenge as regulatory promulgations without a complete analysis on cost benefit and the rationale for implementing such.

So while I agree that we have a mandate to make the world safer from significant chemical accidents or incidents, I don't believe we can do...make policy positions without our own internal data upon which to rely. The same way that regulatory agencies do not put out rules without doing their own cost benefit analysis, an assessment of the incidents that have occurred over a span of period of time, the number of injuries, the impact to the environment, their own investigative work that is borne of their

enforcement actions. There is a robust and sometimes very time intensive collection of that data and collaboration with other agencies in order to make an informed policy decision.

So I can't say to anyone on the phone or to anyone in this room that I have a philosophical belief that we would be able to take a policy position to ban or to use or to endorse a specific process or type absent some of our own individual analysis and scientific rigor.

For those who read our current strategic plan, one of the things that we highlight is, as an independent, objective, non-regulatory agency, one of the things that we are committing to our stakeholders and to ourselves is that we will engage in our own work with scientific rigor. That means fact gathering, poking holes in it, open debate, willingness to learn, and reasoned conclusions that are borne of the previous process.

So I absolutely look forward to us figuring out when we can say in an investigation our recommendation to these recipients or to this trade association is to take a look at high chromium steel rather than carbon steel. Because that's less susceptible to high temperature hydrogen attack. That was borne of work that we did that I then think could extend itself to a conclusion upon some basis.

In the absence of that, I would be reluctant as a Board Member to approve a report that was presented to me that said, by the way, we should just have the entire industry...anybody who uses carbon steel, use high chromium steel. Because I would say, "What is your policy based on? On what?"

So I throw that out and any of the Members can discuss but I think for a vision as powerful as ours, which is to have a nation free from chemical disasters, yes, we play a role in saying when things need to be safer and whether that's products, process, materials, whatever. Open to it. But it has to be based on something we actually have done and investigated.

Thoughts anybody?

MEMBER ENGLER: I just want to clarify since, of course, there's a transcript being made of this meeting, that I do believe in having documented, sound...soundly scientific basis based on our own experience and work. And so there was an argument being portrayed that somehow such would be done without that intrinsic backup, without that necessary gathering of information and analytic rigor. And I thoroughly support having it.

VANESSA ALLEN SUTHERLAND: I think all four of us vehemently support having data before decision. No one else?

MEMBER EHRLICH: I agree with that.

VANESSA ALLEN SUTHERLAND: Okay. In the interest of time, because we did commit to everyone that this meeting was going to be, I believe, one hour. I will ask if there are any final questions or thoughts in the room. Yes?

ROBIN BROOKS: My name is Robin Brooks from the Chlorine Institute and I just wanted to give a little background and a little outlook on Pamphlet 74 which is our Chlorine Dispersion Modeling Pamphlet. The previous edition before June 2015 that was released was based off of models that did not have real-world experience, did not have experimentation behind them. They were based off...they were very theoretical. In 2010, DHS began to do some large-scale leaks of chlorine and peer reviewed articles were released and that information, which talks about how chlorine reacts with soil, which means that chlorine does not travel as far as the models once predicted. Our guidance was updated and that was released in 2015.

In the summer of 2015 and in the summer of 2016, there was additional large-scale releases by DHS. We are involvement in that partnership was to provide the chlorine because we thought that science is helpful for all parties involved, both in the industry and for first responders and for community members.

That...those data sets are available to DHS and they're available to many university partners. And as they are producing more...going through their experiments and analyzing the data and as they're peer reviewed, articles are released that might change how Pamphlet 74...some of the data in that. And so we are a vested interest, just to follow the science. And as we get new information, we will continue to update Pamphlet 74. So although there's an addition now, we anticipate down the road there will be new additions with possible new numbers, depending on what the science says.

VANESSA ALLEN SUTHERLAND: Thank you very much. I appreciate you being in the room and contributing that information. I hope... I can't tell who's dropped on and off but I hope Mr. Millar is on as well and heard that as well.

So I would like to thank everyone for their dedication to pulling these meetings together. I'm going to thank the team in the room. You know who you are. It takes a lot to orchestrate this logistically so thank you for that. I want to thank the Board Members, as always, for their contributions at the meeting and before as we're preparing for these so that we can give a crisp summary of a lot of the work that we're doing.

And I would actually like to thank everybody in the room because some of you come religiously and are contributors and engage us outside of this meeting. And I think that shared responsibility of trying to get information to and from each other and help to prevent chemical incidents in the future is very noteworthy and I appreciate your time and interest and passion around that.

So if you are on the phone and you have a question afterwards, feel free to also use public@csb.gov. That's where all of our other comments are collected.

We will have our next regularly scheduled business meeting on April 26th, 2017. You can check CSB.gov for additional details about the agenda of that business meeting. But we will also continue to publish in the Federal Register and send an email blast if you sign out...sign up for our email notifications.

So thank you for everyone's attendance and with that, the meeting is adjourned. Operator, thank you for your support as well.

OPERATOR: Thank you, ladies and gentlemen. This concludes today's conference. Thank you for your participation. You may now disconnect.