Chair Sutherland: The purpose of this afternoon's meeting is to provide an opportunity for the Board to discuss ongoing investigation and organizational activities. At this time, please allow me to go over the afternoon's agenda. First, we will hear a presentation on the Caribbean Petroleum, or CAPECO, investigation by Investigator, (actually, do you want to stand up really quickly?),**Vidisha Parasram**. Following her presentation, the Board will be given an opportunity to ask questions. Thereafter, we will have a public comment period and then a vote on the draft report. Following the CAPECO presentation, there will be a short break followed by presentations on the Board's ongoing investigations and an update on the agency's action plan.

After these presentations, the Board Members will have an opportunity to discuss any remaining items that they would like to address regarding today's meeting or today's content. Finally, we will open the floor for comments from the public related to the CSB's activities. If you wish to make a public comment, please sign up using the yellow sheet at the registration table, or see, uh, Amy McCormick and Shauna Lawhorne in the back. For those viewing by webcast, you may submit public comments by email to meeting@csb.gov to be included in the official record.

To make sure that we have an appropriate amount of time to print off those comments and read them at the meeting, we're going to ask that you submit by email any comments no later than 20 minutes prior to our public comment period, which, if we keep ourselves on track, should be about…should be about 2:15 or so for CAPECO. And then towards the afternoon, our broader public comment will be no later than about 3:40. Um, so please feel free to send them in, um…send any comments or questions in earlier to make sure that we have time to print them and read them. Before we begin, I'd like to point out, uh, safety information.

Please take a moment to note the location of the exits at the back of the room. There is one open door. There is a second, uh, near the AV equipment. I'd also like to ask you to put your phones on mute or vibrate, um, or stun, so that the proceedings are not disturbed. Thank you for that. I would like to open today's business meeting with a summary of items discussed at the July 22 business meeting.

The Board held a presentation on the CAPECO investigation, an update on the Board's open investigations, a review of a recommendation related to the incident reporting system from the BP Texas City incident, and of 19 – I'm sorry – of 2005, a recommendation to the American Chemical Society related to guidance for laboratory safety, a recommendation related to the Process Safety Management, or PSM, revisions in California, and an overview of interim recommendations from the Board's DuPont **La Porte** investigation that were then later approved at a public meeting in Houston on September 30.

We will continue today's meeting with and…uh, any opening statements or comments from the Board Members, should they wish to provide them. Uh, as I mentioned, Member **Ehrlich** is traveling, so, uh, he will not be available for dialing in. But I will ask, uh, Members **Kulinowski** and **Engler** if they have any comments or, um, opening remarks. Member Kulinowski?

Member Kulinowski: I would like to thank everyone for…for being here today and join me in looking forward to the presentation on CAPECO.

Chair Sutherland: Thank you. Member Engler?

Member Engler: Uh, the same for me. In addition, I'd like to welcome, uh, an international guest, **Helge Rigvig** from Oslo University in Norway, who is a…who has been here for the International Regulators, uh, Conference, which a number of CSB staff, and…and Chair Sutherland…and I, have had the opportunity to attend over the last couple of days. He's a researcher on the history of technology, uh, and safety, in Norway, which offers interesting, uh – interesting experience and…and perhaps some valuable lessons for us as we consider moving forward on safety in the United States. So thank you for coming, uh, to our meeting today.

Chair Sutherland: Thank you. At this time, I would like to introduce Ms. Vidisha Parasram, the lead investigator of the CSB's Caribbean Petroleum investigation. She joined the CSB in August of 2007 as an investigator after completing her Master's in Public Health and Environmental and Occupational Health. She has since worked on numerous investigations, including the XL Cabin Creek investigation; investigated a number of hot work incidents; and completed a study of oil and gas site safety. Prior to the CSB, she

researched "upset emissions" as it pertains to chemical plants and refineries, and conducted a case study on sustainable transportation policies **in Curitiba, Brazil**.

She was also a United Nations Association Fellow, and a Peace Corps volunteer in Gambia. She is currently pursuing a doctorate in Public Health. The CSB has prepared a draft report on the October 23, 2009, overfill incident at the Caribbean Petroleum Refinery in Bayamon, Puerto Rico. Our staff, particularly Vidisha Parasram, demonstrated persistence and diligence on this report, and I thank them. The incident occurred when gasoline overflowed and sprayed out of a large, above-ground storage tank, forming a 107-acre vapor cloud that ignited.

While there were no fatalities, the explosion damaged approximately 300 nearby homes and businesses, and petroleum leaked into the surrounding soil, waterways and wetlands. Flames from the explosion could be seen as far as 8 miles away. The findings of our investigation led the CSB to propose draft recommendations that may be adopted today after a Board vote. These include recommendations to the EPA and OSHA aimed at controlling hazards from facilities storing large quantities of gasoline, and other flammables, like Caribbean petroleum.

Our recommendations, regulatory or otherwise, are put forward with the hope of preventing similar accidents from occurring in the future. I, again, thank the staff for their hard work in producing this important report and for presenting it today. Ms. Parasram, please begin your presentation.

Vidisha Parasram: Thank you, Chairman Sutherland, for that wonderful introduction. Uh, good afternoon, ladies and gentlemen, Chairwoman Sutherland, Board Member Ehrlich, Member Engler, Member Kulinowski, and esteemed colleagues.

I'm here to present the investigative findings from our Caribbean Petroleum investigation. I'd like to start by: providing a background on the Caribbean Petroleum facility; provide an incident description and show the CSB animation of the incident details; describe the impact of the…of the explosion on the communities near the Caribbean Petroleum facility; discuss the emergency response as a result of the vapor cloud ignition and

multiple tank fires; talk about our investigative and regulatory findings; and finally, present a summary of the CSB recommendations with the help from my colleague in the Recommendations Department, Veronica **Tinney**.

The Caribbean Petroleum Tank Farm was located in Bayamon, Puerto Rico, approximately 10 miles from San Juan. If you look on the map, it's where the drop pin is located on the northeastern part of the island. The facility started operating as a refinery in 1955. Ownership changed several times in the decades following the purchase of the refinery by Gulf Oil Corporation in 1962, and Chevron Corporation in 1984. First Oil Corporation acquired the facility – the refinery, rather – in 1987, and operated it as a 48,000 barrel-per-day petroleum refining facility until the…the year 2000, when the refinery closed.

In 2001, the facility was reorganized to be a petroleum storage facility solely. And in 2010, after the…the incident, the facility declared bankruptcy. Here, you see a layout of the…the facility, the Caribbean Petroleum facility, uh, prior to the…the 2009 incident. The facility encompassed 179 acres, 115 of which were developed. It had a…a decommissioned refinery (which, I don't know if my pointer works here, but)…the decommissioned refinery is located, um, right here; and the wastewater treatment plant; a loading dock located 2.5 miles from the site; 48 liquid storage tanks; some propane bullet tanks; and it employed 65 personnel.

On October 23, 2009, Tank 409, a 5 million-gallon-capacity atmospheric storage tank, was overfilled while gasoline was being transferred from a ship, the **CAPE BRUNY**, located at the CAPECO dock. The overflowing gasoline aerosolized, forming a large vapor cloud, which subsequently ignited, causing tank…tanks to explode and become engulfed in fires that lasted 2.5, or 2 and a half days. To better understand the incident, I would now like to describe the normal site operations at the CAPECO tank farm. During normal site operations, gasoline was transferred to above-ground storage tanks at the tank farm from the CAPECO dock.

Gasoline was then pumped to the [Puerto Rico Power Authority] **PREPA** and the airport, as well as loaded on tanker trucks and

distributed to the 170 Gulf gas stations owned by CAPECO. The tank farm was staffed by two tank farm operators, normally, and one wastewater treatment operator. It operated on three rotating shifts that were eight hours each. With regards to fuel transfer operations, operators manually opened and closed valves to transfer and blend gasoline before pumping it to various locations on the island. During transfer operations, operators recorded tank levels in the morning, and checked them via the side gauge hourly.

Operations staff received direction from the CAPECO Planning and Economics Department. There were two types of tank gauging that occurred at the CAPECO facility to obtain liquid levels inside the tank. Operations staff manually measured tank liquid levels inside the tank. For commodity management, it was common practice for Operations staff, and a third-party inspector, to manually measure and verify the tank levels before and after fuel transfer operations to ensure the correct amount of product was offloaded into the tank.

CAPECO tank – the CAPECO tanks were also equipped with a float and tape device that measured liquid levels inside the tank and displayed it on a gauge mounted on the side of the tank. The facility also had the ability to view tank liquid levels on a computer. Each side…each side gauge was equipped with a transmitter card that transmitted the liquid levels to a computer in the Operations Department. Operations staff commonly calculated the time it took to fill a tank. This diagram shows the gauging system at CAPECO. The manual tank requires an operator to physically gauge the tank using a…a measuring tape.

And…and they would…they would literally dip the tape in – from an opening at the top of the tank into the tank – to obtain the liquid levels. The automatic tank gauge included the float and tape device, which can be read at the side gauge housing the transmitter card, which transmitted…transmitted the tank liquid levels to a computer in the Operations Department. Now, the CAPECO Planning and Economics Department had a significant role in directing operations at the tank farm. They determined the tanks to be filled with product in a given transport operation. They rented tank…tank space to petroleum vendors, and they negotiated a fee for the duration of filling operations.

So CAPECO would be charged this fee if unloading operations took longer than negotiated. Now, the manual nature of operations required operators to be in constant contact with each other. CAPECO operators communicated via radio. Constant communication was necessary because tank sizes varied at the CAPECO tank farm. And operators were often manually manipulating valves to switch flow between multiple tanks. In order to understand what occurred on October 23, 2009, I will now show you the CSB's animation of the incident.

[Video]

Vidisha: The CAPECO explosion and multiple tank fires resulted in significant community and environmental impact, as well as…as a very large emergency response. This map shows the communities neighboring the CAPECO tank farm. They include **Cataño**, **Puente Blanco**, the **Luchetti** Industrial Park, and Fort **Buchanan**, an Army installation. Over 40,000 residents were living 1.5 to 5 miles from the CAPECO site. As a result of the explosion, over 250 homes were damaged or destroyed. Puerto Blanco experienced the most structural damage, where 60 – 266 homes were assessed, and 232 homes were damaged.

[In] Catanyo, uh, 25 homes were completely destroyed or [considered] completely destroyed. The Army installation, Fort Buchanan, uh, it had to, um, repair their facility. And that cost approximately $5 million. Uh, and the Puerto Rico government had to rearrange the transfer of approximately 150 high, maximum-security prison inmates that were, um, in a local prison about 1 mile away from the facility. The incident also elicited a very large federal and local response that included 530 firefighters and 900 National Guardsmen. A Federal Emergency order was…was declared by President Obama.

And FEMA awarded approximately $3.4 million to 27 municipalities and agencies in Puerto Rico. This video shows what the community, the local community members, um, saw that night. It…the incident occurred at 12:23 a.m., while most people were asleep. After the initial explosion and fire, residents of the nearby communities were told to evacuate the area via blow horn, without any direction for where to go. The entire scene was very

chaotic. I'll give you a glimpse of exactly what the community see…saw that night, and heard. We don't have audio, actually.

[Video]

Vidisha: The explosion and multiple tank fires also resulted in significant environmental damage. The runoff from the incident contaminated nearby creek, wetlands, and storm water channels leading to San Juan Bay. CAPECO and the EPA collected and shipped offsite an estimated 171,000 gallons of oil and 22 million gallons of contact water. The facility was fined $8.2 million by the EPA, and CAPECO ended up declaring bankruptcy in August 2010. EPA then assumed responsibility for the cleanup of the site. Now, catastrophic incidents like CAPECO, thankfully, occur in low frequency, but result in significant consequences when they do occur.

Therefore, it is necessary that we learn from them and work towards preventing them. Unfortunately, a very similar incident to CAPECO occurred in England in 2005. On December 11, 2005, a gasoline storage tank overfilled, creating a vapor cloud that ignited at the **Buncefield** Oil Storage Depot in the United Kingdom. The overfilling tank had a gauge that allowed operators to monitor filling operations and an independent high level switch that allowed for automatic shut-down of filling operations if the tank overfilled. Both were out of service at the time of the incident. The explosion generated significant blast pressure, resulting in additional loss of containment that led to fire and other damage involving 22 tanks.

There were no fatalities, but 43 people were injured, and the damage to the nearby commercial and residential property totaled $1.5 billion. The United Kingdom, unlike the United States, classifies…classifies tank terminals storing gasoline as high tier, or high-hazard facilities, and require that these facilities use a safety management system approach to manage all facility operations. A safety management system is a systemic approach to managing safety, which includes organizational structures, accountability, policies, and procedures.

The Buncefield incident used…caused the UK to do a comprehensive review of their regulatory requirements governing

tank terminals, like Buncefield storing gasoline. The regulator now requires an independent, automatic, overfill-prevention system, and a high-integrity safety-instrumented system, moving towards treating Buncefield-like facilities as high-reliability organizations.

The Buncefield reports emphasized that controlling the risks associated with a major incident like Buncefield requires an integration of safety integrity levels at high-hazard sites, specifically addressing the containment of dangerous substances, and process safety with the mitigation…with mitigation planning against: offsite impact; preparedness of emergency response; land use planning for controlling societal risk; and regulatory system enforcement at high-hazard facilities. Many of these recommendations are pertinent to the CAPECO investigation. The most salient are: preventing primary loss of containment; conducting a risk assessment; cultivating a safety culture; and conforming petroleum storage facilities to high-reliability organization principles.

There are three additional incidents we talk about in our report. Um, we also identified 15 incidents involving overfills and spills that occurred around the world. On January 7, 1983, a similar incident occurred at a Texaco Oil Company tank terminal in Newark, New Jersey. A gasoline vapor cloud exploded when a, um, 1.7 million-gallon-capacity tank overflowed, resulting in 1 fatality and 24 injuries. Inadequate monitoring of the…of the rising gasoline levels in a storage tank during filling operations contributed to the overflow, explosion, and subsequent fire. An **NFPA** report on the incident attributed the root cause to errors in calculating the available space and pumping rates.

Equipment damage was observed as far as 1,500 feet away from the exploding tank. The overflowing tank had manual level controls. The facility also had no documentation of previous liquid level monitoring in the hours leading up to the explosion. The last check on the tank level occurred approximately 24 hours prior to filling operations.

In addition to Texaco, another incident occurred in Jaipur, India, on…at the Indian Oil Corporation Petroleum Oil Lubricants Terminal 16 miles south of Jaipur, India, one week after the

CAPECO explosion in 2009, where 4 operators were transferring gasoline to a tank when the delivery line developed a large leak, which continued unabated for 75 minutes after 2 operators were overcome by the fumes. The pooling fuel migrated through an open dike drain valve to storm drain, producing a large vapor cloud. The cloud was ignited by other non-intrinsically safe electrical equipment or a vehicle start up.

The resulting explosion and fireball engulfed the entire site. Fire affected 11 tanks and persisted for 11 days. The incident resulted in 11 fatalities, 6 of them Indian Oil Company employees and others from neighboring facilities. Among the 39 recommendations issued, 1 was for an independent hazard operability study or risk assessment. And another addressed automated operations and improving instrumentation and alarms at tank farms. The final incident occurred in 2010…in March 2010, right here in the United States, um, in Huntington, Indiana.

A gasoline storage tank overflowed at the **Galladieux** Trading and Marketing, um, Terminal in Huntington, Indiana, when a pump that was transferring product was left on at the end of a shift. The high, and high-high level safety alarms activated, but it was hidden from view on the alarm monitoring screen. An offsite contractor employee spotted the product overflowing from the tank 157 minutes after the overfill occurred and alerted the control operator to the incident. Fortunately, that didn't result in an explosion. The CAPECO incident resulted in a number of systemic failures at the CAPECO site.

In our report, we used James **Reason's** Swiss cheese model to demonstrate the breakdown of multiple layers of protection and the lack of safeguards that resulted in the overfill of…of Tank 409. The…the investigative team found a large number of safety management system…system deficiencies that contributed to the overfill of Tank 409. Again, safety management system is a systemic approach to addressing safety at all levels of an organization.

These deficiencies include: a poor…poorly maintained level-control system; a lack of a robust prevention/preventative maintenance program; human factors deficiencies (and human factors refers to environmental, organizational and job factors, and

human individual characteristics, which influence behavior at work in a way that can affect health, society and safety). And there is a lack of additional layers of protection—only relying on one layer of protection to prevent an overfill. So these…these four things, uh, contributed to the overfill of Tank 409. Now, the…this diagram just shows/depicts those four things.

We…we found that there was a breakdown of the level-control and monitoring system. And these are safety-critical equipment that were prone to failure. Um, the float and tape device that the facility used was prone to failure. The gear mechanism can disengage, resulting in inaccurate readings and disrupting synchronization of the transmitter. It is also subject to excessive wear and tear. On the night of the incident, the transmitters for Tanks 107 and 409 were not receiving data from the side gauge.

Therefore, data on the tank liquid level on…the calculated fill rate for Tank 409 was not available in real time to the operators…in the Operations, um, Department. The computer monitoring system was often compromised by outages from lightning strikes, and accidental breakage of the computer cables after maintenance activities in the tank farm area. Furthermore, the transmitters that sent the data to the computer were also susceptible to electromagnetic interference and frequently needed replacing after lightning storms. So CAPECO took weeks to replace the faulty transmitters.

And the CAPECO operators, uh, often found the computer monitoring system inadequate because it was so frequently out of service. After completing hourly rounds, the operators reported the tank levels back to their shift supervisor, who would then manually calculate the estimated time to fill a tank. And they had been doing this for decades. This figure shows, uh, that on the night of the incident, simply, there was no reading to the computer, so that the facility operators couldn't remotely see what the tank levels were in the tank. Now, the CSB found deficiencies in preventative maintenance programs at the CAPECO site.

EPA's inspection reports from 1992 to 2004 illustrated a lack of investment in equipment at the tank farm. For the 12-year period, SPCC [Spill Prevention, Control and Countermeasure] inspections revealed problems with leaking transfer valves, leaking product

lines, insufficient secondary containment, failure to lock valves that could release content, and oil sheen present in the dikes…in adjacent dikes, indicating migration of oil from a…a leak or spill through the dike drain valves. A good example of this is, the level transmitter for Tank 409 was out of service, as stated, and maintenance personnel were waiting for repairs.

And, despite frequent outages of these transmitter cards, CAPECO management didn't replace the level transmitters on any of the tanks, and relied only on the float and tape gauge located on the side gauge on the tank to obtain tank levels. CSB also found a history of overfills and spills at CAPECO. Um, we found they had a history of 15 incidents from 1992 to 1999, and three others after 2005, when spills or overfills occurred during filling, draining, or transferring operations between tanks, or via pipeline to storage tanks. Eight of the fifteen were overfills, and seven were spills. Incidents resulting from valve-in-the-open-position, tank gauge malfunctions, or corrosion of pipes or tank shells—those are the causes of the spills and overfills.

We…we also found human factors deficiencies. Uh, for example, poor lighting at the tank farm made it difficult to observe an overfill. Uh, a 1999 EPA inspection found insufficient lighting at the CAPECO tank farm to detect spills and prevent vandalism. We also found that there was a lack of formal procedures to fill a tank. The standard operating procedures were not updated since 1999 when the refinery was in service. And that's…they were only updated in 1999 because they had to adhere to the Process Safety Management standard—OSHA's Process Safety Management standard.

After they became a full tank farm, they weren't required to adhere to PSM any longer. So they didn't update their procedures. Um, the procedure for tank filling, or filling a tank, was two pages and documented or listed activities without assigning any responsibility, um, to personnel, who were responsible to do the task. Additionally, the Puerto Rico Occupational Safety and Health, uh, Administration, issued a series of violations to CAPECO for lacking tank filling procedures during transfer operations. So, they were also cited by PROSHA. We also found that the differing valve designs made it difficult to tell whether the secondary containment valves are open or closed.

Now, this is really very important, because it was common practice for Operations staff to drive by the secondary containment valve and observe the valve position. Now, there are three different types of valves at the CAPECO site. In terms of practice, it makes it very difficult to observe whether the valve was open or closed, um, while you're driving by. Various designs of secondary containment valves made it really difficult to observe the valve was open or closed.

The CSB determined that the secondary containment valve for Tank 409 was in the open position that led to the migration of gasoline to the retention pond in the wastewater treatment area where a vapor cloud developed and ignited. The wastewater treatment area was not electrically classified, and had multiple ignition sources present; nor is it required to be electrically classified. We've – we also found that the management decision to staff each fuel off-loading, uh, shift with one operator at the tank farm, and another at the dock, provided insufficient staffing resources during filling operations.

CAPECO often off-loaded inventory into multiple tanks, which required manually switching fuel between tanks. This task often required two people to do, due to the increased pressure of the fuel on the valve. Operators addressed this lack of staffing by cracking, or partially opening, the valve of the next tank in line to be filled. In summary, we found that CAPECO relied only on one layer of protection to prevent the overfill incident. There are no high level alarms to measure the tank levels, or no redundant alarms, and there is also lack of any kind of independent alarm, or any additional layer of protection.

Now, this figure shows…the yellow shows just, um, what an additional, redundant alarm would look like. And, what it does is provide two outputs, two data points for the same liquid level. So, if one layer of protection, or the float and tape and transmitter card layer, fails, you have this redundant system that would be providing the same information.

This graphic, and I know it's very difficult to see, just illustrates what we were talking about with James Reason's Swiss cheese model, that, when all of the failures at each level lined up, the

system did not have a redundant alarm, or any ability to divert flow from the tank, or automatically shut off flow to the tank – and all of this contributed to the overfill. The lack of safeguards – so, no independent high level alarm and no overfill prevention system – that allowed for any kind of automatic shut-down or diversion, contributed to the overfill of Tank 409, and, subsequently, to the explosion and multiple tank fires.

Both the EPA and OSHA standards apply to tank terminals storing petroleum, like CAPECO. We found that under the Clean Air Act Amendments, the general duty clause protects the public…the public living near facilities. Section 112(r) of the Clean Air Act Amendments requires covered facilities to identify hazards to prevent and minimize the effect of an accidental release. The EPA's Clean Air Act Amendments' General Duty Clause lacks specific guidance on how to – for preventing accidental **releases**.

Um, we also found that the Risk Management Plan requires additional safety measures that were created to prevent catastrophic releases. In addition, the Spill Prevention, Control and Countermeasure rule, and the Facility Response Plan under the Clean Water Act, apply to tank terminals. Now, the EPA's Risk Management Plan, um, was promulgated in 1996. The EPA created the RMP program to address accidental releases. Covered facilities storing illicit, toxic chemicals above a threshold quantity are required to submit a Risk Management Plan to the EPA.

They have to conduct a risk assessment, and analyze worst case scenarios. They also have to adhere to Recognized And Generally Accepted Good Engineering Practices, or **RAGAGEP**. Only facilities storing **NFPA 704 Class 4** flammable liquids are covered under the Risk Management Plan. Now, Class 4 flammable liquids are highly flammable liquids that include pentane in the settling. Um, Class 3 liquids are gasoline and acetone. Class 2 liquids are diesel fuel, and Class 1 liquids are mineral oil. Um, gasoline is considered Class 3 under the NFPA 704.

And EPA initially recognized that facilities storing Class 3 flammable liquids could pose an explosion hazard when it initially promulgated the rule. But, following an industry petition in 1996, EPA asserted the General Duty Clause coverage was sufficient for Class 3 flammable liquids. So, therefore, um, essentially, gasoline

is exempt from this RMP rule. And, therefore, they're not held accountable, um, because storage facilities that store gasoline are exempt from the RMP – they don't have to adhere to RAGAGEP, or Recognized And Generally Accepted Good Engineering Practices.

Now, the Spill Prevention Control and Countermeasure requirements govern oil discharges. They were first promulgated on January 10, 1974, and updated since then. Covered facilities must develop a plan detailing steps to prevent and control oil discharges to navigable waters and shorelines. And the plan has to be certified by a professional engineer. SPCC requires, uh, facilities to provide for overfill protection for each [basic] container, in accordance with good engineering practice. And "basic container" means "tank."

They give options to each facility to choose one layer of protection among the following to prevent an overfill: constantly attended alarms; high liquid level pump cut-off devices to stop liquid flow; fast response system, such as a digital computer, to determine the liquid levels in the tank; and regular testing of level sensors. But only one of these [suffices for] compliance with SPCC. So SPCC does not require any safety redundancy, and no risk assessment to determine how many layers of protection are adequate and necessary to address the risks, posed by an operation at the facility, to the public.

So CAPECO had a varied compliance history with SPCC. In 1996, the EPA cited CAPECO for not fully explaining in their plan how they use engineering controls to prevent a spill.

Now, engineering controls include: high level alarms with an audible or visual signal, um, at a constantly manned operation or surveillance station; high liquid level pump cut-off devices to stop flow, uh, at a predetermined tank content level; a direct audible, or code signal, communication between the tank gauge and a pumping station; or a fast-response system for determining the liquid levels of each tank's bulk storage tank, including digital computers, telepulse or direct vision gauges, or their equivalent. Um, in 1999, Caribbean experienced an incident involving an asphalt tank that overfilled.

EPA cited CAPECO for not implementing fail-safe engineering again, such as high-level alarms, to prevent the spill. Now, the asphalt incident occurred in a separate part of the facility, and not part of the tank farm. But they had the same findings, for engineering controls. In 2010, EPA cited CAPECO for not employing fail-safe engineering after the incident. But the facility contended that the float and tape measurement satisfied SPCC overfill requirements. Now, CAPECO is also subject to um, FRP rules, or Facility Response Plan rules.

In 1990, uh, the Oil Pollution Act amended the Clean Water Act. Facilities [from which] substantial harm from oil discharge [could reasonably be expected to result] had to submit a plan to respond to worst case discharges. In the FRP world, [substantial harm from oil discharge could reasonably be expected to result] if they store over 42,000 gallons of oil, and the oil storage capacity is greater than, or equal to, 1 million gallons, and one of the following is true: they don't have adequate-sized secondary containment; their location, um, impacts wildlife; [a discharge from their location [could] shut down a public drinking water intake; um, or they had a reportable oil discharge of 10,000 gallons or more within the last 5 years.

So, if a facility is considered a "substantial harm" facility based on those criteria, they're required to address contingency measures for discharge. Now, CAPECO is subject to the FRP, and had to file an FRP plan. They were inspected in March, um, of 2008 prior to the incident. When we looked at the inspection record for the FRP, it was not robust enough.

It didn't require the inspector to…to address the prospect of a multiple tank farm occurrence, or an explosion, um, from multiple tanks. And it was often just, um, a "check-the-box" kind of inspection. So the SPCC and the FRP, um, they essentially lacked data on covered facilities. Now, covered facilities only report overfills if it reaches navigable waters or waterways. So if a spill occurs, and it stays within the containment dike, um, they don't have to report that to the regulator. Now, in 2008, the – the Government Accountability Office report found that EPA lacks information under [the] universe of facilities that it covers.

And this hinders the EPA's ability to effectively regulate facilities, determine inspection priorities, and evaluate program goals. In 2012, a – a report found that the EPA lacked understanding of the compliance status about SPCC and FRP covered facilities because of data collection limitations.

The Occupational Safety and Health Administration, um, regulations also apply in this incident. Um, OSHA protects workers from hazards of the workplace. And OSHA's flammable and combustible liquid standards apply to tank terminal facilities storing petroleum product.

Although not covered under the PSM standard, tank terminals can benefit from the hazard assessments required under it. Now, the OSHA flammable and combustible liquid standard, which covers tank terminals that contain flammable material, does not require overfill protections for above-ground storage tanks. Based on the 1968 version of the NFP 30, the Flammable and Combustible Liquid Code offers no guidance on overfill prevention at terminal facilities during the transfer of flammable or combustible liquids. Now, newer versions of NFP 30 offer limited overfill requirements, but OSHA has not adopted the updated versions.

And Puerto Rico OSHA cited CAPECO under 1910.106 for endangering the lives of workers. But they couldn't cite – uh, cite the facility under any additional standards as PSM. While – so – recent versions require limited overfill protection, OSHA has not updated the 1910.106, um, to include versions of the NFPA, or other updated good engineering practices that are out there. So the OSHA's Process Safety Management Standard 1910.119, it – uh, this standard is a performance-based standard that requires covered entities, such as refineries and chemical plants, to implement a safety management system to – to prevent accidental release from high – highly hazardous processes.

The PSM requires periodic audits, process hazard analysis, and a Management Of Change process. Now, the process hazard analysis is a thorough, orderly, systemic approach for identifying, evaluating, and controlling the hazards of – of a process involving highly hazardous chemicals. The employer must inform an initial, uh, uh – do an initial process hazard analysis on all processes covered by the PSM standard. Now, atmospheric storage tanks are

currently exempt from PSM. And there – and one of the more salient parts of PSM is, for CAPECO anyway, is adherence to RAGAGEP.

PSM holds facilities, um, accountable for using recognized and generally accepted good engineering practices. So, uh, PSM elements like RAGAGEP and a process hazard analysis or hazard operability study, um, may – these – these parts may benefit a facility like CAPECO, or terminals like CAPECO, to identify hazards. Now, the American Petroleum Institute is an – is an, um – their – their Standard A**NSI/API 2350**, Overfill Protection for Storage Tanks in Petroleum Facilities, provides minimum overfill prevention practices and recommends that overfill prevention process be supported by a risk assessment.

Um, now – and it also has limited guidance on how to conduct a thorough risk assessment. The problem is it lacks – there is a lack of a comprehensive industry standard for operations at tank farms. So we found that there was this limited guidance on risk assessment. But we also found that there were various standards, and a – a recommended practice that the API has that can benefit tank farms, but are in different places. And, um, the industry could benefit from one cohesive standard. The International Code Council is a consensus organization that develops the International Fire Code.

And Puerto Rico adopted the International Fire Code. It was a fire code in effect in Puerto Rico in 2009. The IFC's, um, section on overfill preventions, uh, covers tanks of over, uh, 1,320 gallons of flammable liquids. And it said that in no case should the tanks be filled in excess of 95 percent capacity, and [the tank owner/operator] should install visual or audio – audible or visual alarms. But [the IFC] only really required, again, one layer of protection against an overfill. Similarly, um, the National Fire Protection Association is another, um, consensus code organization. And their – their codes are incorporated by reference or adopted by state and local jurisdictions. OSHA's 1910.106 is based on a 1968 version of NFPA 30.

Now, current NFPA 30, um, requirements only require one layer of protection to prevent an overfill. And facilities can choose one of these options, which they can gauge the tanks at – at intervals,

equip tank with high level of independent gauging equipment, and equip tanks with independent high level detection systems to allow for automatic shut down or diversion. So, um, but, again, only one layer of protection is required here. And now, my colleague, Veronica Tinney, will talk about, um, our recommendations after [we've identified] these gaps.

Veronica Tinney: So I'm now going to go over the recommendations, some of which I'll read, uh, the entire text, and others, I will summarize. The first recommendation is to the USEPA. It reads, 'Revise where necessary the Spill Prevention Control and Countermeasure, SPCC, Facility Response Plan, FRP, and/or accidental release prevention program, 40 CFR Part 68 rules, to prevent impacts to the environment and/or public from spills, releases, fires, and explosions that can occur at the bulk above-ground storage facilities storing gasoline, jet fuels, blend stocks, and other flammable liquids having an NFPA flammability rating of three or higher.

At a minimum, these revisions shall incorporate the following provisions: Ensure bulk above-ground storage facilities conduct and document a risk assessment that takes into account the following factors: the existence of nearby populations and sensitive environments; the nature and intensity of facility operations; realistic reliability of tank gauging systems; and the extent and/or rigor of operator monitoring.

Uh, in addition: equip bulk above-ground storage containers and tanks with automatic overfill-prevention systems that are physically separate and independent from the tank level control systems; ensure these automatic overfill-prevention systems follow Recognized And Generally Accepted Good Engineering Practices, or RAGAGEP; engineer, operate, and maintain automatic overfill-prevention systems to achieve appropriate safety integrity levels in the environment, in accordance with good engineering practices such as Part 1 of the International Electrotechnical Commission, IEC, 61511-SER ed1.0B-2004 Functional Safety – Safety Instrumented Systems for the Process Industry Sector. Regularly inspect and test automatic overfill-prevention systems to ensure their proper operation in accordance with good engineering practice. Uh, 2) also to the EPA: Conduct a survey of randomly selected bulk, above-ground storage tanks storing gasoline or other

NFPA 3 flammable liquids at terminals in high-risk locations. Note the extent of the safety management systems in place, the use of independent high-level alarms, the history of overfill incidents, and the need for additional reporting requirements.

3) Also to EPA: Issue appropriate guidance, or an alert similar to EPA's previously issued chemical safety alert, addressing rupture hazard from liquid storage tanks. 4) Number 4 is to the Occupational Safety and Health Administration: Revise the Flammable and Combustible Liquid Standard, 20 CFR 1910.106, to require installing, using, and maintaining a high integrity automatic overfill-protection system with the means of level detection, logic-controlled equipment, and independent means of flow control for bulk, above-ground storage tanks containing gasoline, jet fuel, or other fuel mixtures or blend stocks and other flammable liquids having an NFPA 704 flammability rating of 3 or higher, to protect against the loss of containment.

At a minimum, this system should meet the following requirements: 1) separated physically and electronically, and independent from the tank gauging system; 2) engineered, operated, and maintained to achieve an appropriate level of safety integrity in accordance with the requirements of Part 1 of the International Electrotechnical Commission, IEC 61511-SERED1.0B-2004, Functional Safety —Safety Instrumented Systems for the Process Industry Sector (such a system would employ a Safety Integrity Level, SIL, documented in accordance with the principles in Part 3 of IEC 61511-SERED1.0B-2004, accounting for the following factors: the existence of nearby populations and sensitive environments; the nature and intensity of facility operations; realistic reliability for the tank gauging system; and the extent and rigor of operating monitoring); 3) proof-tested in accordance with the validated arrangements and procedures with sufficient frequency to ensure the specified safety integrity level is maintained through established hazard analysis, Management Of Change, and mechanical integrity management system elements to bulk, above-ground storage tanks in the revised 1910.601 standard that are similar to those in the Process Safety Management of highly hazardous chemicals standard, 29 CFR 1910.119; 4) and ensure that these facilities are subject to Recognized And Generally Accepted Good Engineering Practices, or RAGAGEP.

Number 5) is to the International Code Council. Revise the appropriate section of the overfill-prevention of the International Fire Code, IFC, to require an automatic overfill-prevention system for bulk, above-ground storage tank terminals storing gasoline, jet fuel, and other fuel mixtures or blend stocks and other flammable liquids having an NFPA 704 flammability rating of 3 or higher or equivalent designation.

Uh, the next one is to the National Fire Protection Association, um, or rather specifically to NFPA 30, which is, revise NFPA 30 to include more than one safeguard to prevent an overfill.

Achieve the necessary risk reduction as determined by a documented risk assessment methodology conducted in accordance with the Center for Chemical Process Safety Guidelines for Hazard Evaluation Procedures. Uh, the next one is to the American Petroleum Institute: Revise API 2350, Overfill Protection for Storage Tanks and Petroleum Facilities to require the installation of automatic overfill-prevention systems for existing and new facilities. Uh, the next two are also to API: Develop detailed guidance on conducting a risk assessment for onsite and offsite impacts of a potential tank overflow during transfer operations involving one and multiple tanks.

And the next one: to develop a single publication or resource describing all API standards and/or other relevant codes, standards, guidance, and information for filling operations of above-ground storage tanks and petroleum facilities. And that concludes, uh, the text of the recommendations.

Vidisha: Now, um, that's the conclusion of the investigative presentation to the Board. I will urge the Board to remember the video of the local community and what they saw in their deliberation today. Thank you.

Chair Sutherland: Thank you both, Vidisha and Veronica. That was, um, extremely thorough. We will take questions now from the Board. Um, and I will ask if Member Ehrlich has joined. Are you on the phone? Not yet. Um, then I will take the liberty of asking the first couple of questions. So, um, based on the presentation, and I understand that CAPECO filed for bankruptcy in 2010, and, um, presumably, has not reincorporated or rebuilt, or is not in the process of doing that.

But, walk me through how common are CAPECO's practices while they were operating the facility throughout the United States, today, um, and in – in their specific sector?

When you were doing your investigative research, are they an outlier, or are they representative of something broader?

Vidisha: So I will say that, um, the CSB tried to survey the industry. Um, and we – we tried to work with **ILTA**, and we asked, um, API, actually, and other, um, industry groups to help us survey the industry to understand how common these practices are. And, um, we only received about 20 responses. Um, and a lot of the questions were not answered. And so it was very difficult to get information from the industry. But what was clear was that a lot, um, from at least the 20, uh, respondents, that – is that, uh, they at least did not have a redundant system or independent alarm. And a lot of them had manual gauges.

But it's only 20. And then, um, I've gone to the, um, **[inaudible] [01:02:46]** Above-ground Storage Tank Conference, um, for the last three years. And that seems to be, um, normal but without any other further analysis.

Chair Sutherland: Okay. One of the things that you mentioned about, um, CAPECO's processes, um, their human factor deficiencies, some of the pipeline-related issues, makes me wonder: are other agencies already doing anything to address some or part of the investigative findings that you have? I know, certainly, that you've mentioned the DOT, that the Pipeline and Hazardous Material Safety Administration has reached out to you all to talk about overlap and jurisdictional issues with other agencies. So what would already be going on, and, therefore, possibly not accounted for, in the recommendations you're making to EPA and OSHA?

Vidisha: So, um, the study you mentioned, uh, Chairman Sutherland, is, um – is still ongoing. And that study is looking at vapor – the potential for vapor cloud explosions from terminals and pipelines that could release flammable material. Um, so they're addressing this – they're – they're looking into it. They're doing a retrospective analysis. So the conclusions are not, um – their findings aren't ready yet.

Chair Sutherland: They're not ripe yet.

Vidisha: Yeah. And, uh, I know that the Bureau of Land Management has, uh, an ANPRM out, uh, or a request for, um, proposed rulemaking, and are taking comments now on tank aging on BLM land. But that's just, um, on Bureau of Land Management land. So federal lands, not necessarily private lands, are addressing these big terminals.

Chair Sutherland: And no anticipation that they would expand that through their rulemaking process beyond the federal lands?

Vidisha: Not that I'm aware of.

Chair Sutherland: Okay. And then, uh, lastly, until I come back for some other follow-ups, you mentioned a lot of, and actually, Ms. Tinney mentioned a lot of standards, developing organizations' best practices, consensus process, which, in theory, should take into account a lot of different perspectives. And I understand they generally update them every two to five years, depending on the type of standard. Why wouldn't the NFPA, ICC, API, and any other standard that we didn't identify be adequate if updated to address these issues instead of, um, additional EPA or OSHA regulatory framework changes?

Vidisha: You know, when we, uh – when we talked about recommendations, um, based on the findings of our investigation, we tried to…to address the issue at every level, to look at the regulatory gaps, and to look at the industry and consensus standard gaps, because, um, I think there are challenges to changing each body. And if we can change the industry and consensus standards and get them adopted into regulation that would be ideal. But that was what – what generated, um, the direction, and where we headed with the recommendations.

Chair Sutherland: Thank you. I'll just go to my right. Member, Engler?

Member Engler: Thank you. And thank you for the presentation. I had an opportunity to ask, uh, a number of questions at the previous presentation of this, uh, proposed, uh, report. So I – I essentially have one quick observation, and one, uh, question. One is that, as

refineries consolidate and move to loading and unloading, uh, and storage terminals, often, those facilities are – appear to be storing, uh, even higher, uh, quantities of – of volatile and flammable materials.

And yet, at the same time, as you pointed out that, by moving from a PSM-covered operation to a, uh, facility that's not covered by Process Safety Management, uh, assessment requirements were actually increasing, potentially increasing risks of these very same facilities now that they're dedicated to a different purpose. Uh, my question is, if this report, uh, is approved today, uh, could you suggest some things that the Board might consider for ensuring that the emergency responders, uh, and community in – in Puerto Rico in particular, where this incident occurred, uh, would find out about the results, findings, and recommendations.

Vidisha: Sure. Uh, you know, when my team went down to, um, conduct secondary interviews, uh, for this incident, a lot of the community members – local community members and even local government officials -- really wanted to know, um, what our findings are, and, you know, uh, wanted to know how they could be informed of it. And I think it would be incumbent on the Board to do an outreach campaign or, um, reach out to media sources and those local, uh, officials, and share our video, and disseminate our video and share our findings, or even do talks in Puerto Rico.

Member Engler: Thanks.

Chair Sutherland: Member Kulinowski?

Member Kulinowski: Thank you, Vidisha, for that excellent presentation. Um, I have two questions. Uh, first, CAPECO underwent a series of changes in ownership, as well as substantial changes in the nature of its operations over the years prior to the incident. Uh, my understanding, in my brief time on the Board, is that CSB encounters this a lot, uh, in – in its investigations, so major changes of ownership, or changes in operations, such as the ones that Member Engler just – just mentioned.

Did CSB, in this investigation, gather any evidence on whether these changes were accompanied by a review of operations that could have identified safety issues, um, such that could have

prevented this incident? And more broadly, are there lessons to be learned about how facilities should manage changes in ownership or operations to either ensure continued safety or even improve on existing practices?

Vidisha: So the first part of your question, um, you know, we didn't encounter any kind of documentation or – or review. Uh, essentially, a review, of, um, **[audio distortion]** personnel tell us that when they no longer require to follow PSM or the standards that, um, apply to the refinery, they had a lot less regulatory burden. And so they didn't have to do as much on the ground. And, um – and then when we talked to the operators and various other, um, workers that we interviewed, they also said that, after the refinery closed, they noticed, uh, essentially, a lack of investment in this, um –in maintenance, essentially.

Now, the second part of your question, uh, you know, it's not a difficult one to answer, but it's difficult – it's a higher level. And I think our BP Texas City, um, 2005, uh, investigation, addresses this with corporate oversight recommendations and, um, safety getting all the way up to the corporate level. And I think it has to come from that level on a manager oversight. But that's –

Member Kulinowski: Yes, Chairwoman Sutherland?

Chair Sutherland: I just want to ask a follow-up having once done M&A [mergers & acquisitions]. But has – has a recommendation – have you thought [of] doing a recommendation that is really more of a sharing, or safety bulletin, that if you were to be a new owner, despite the fact that you were going to have underwriters and lawyers and others looking at the transaction and identifying risks and, you know, successful liability issues and the like, why not then issue what we have found or seen in these kinds of ownership changes as an informational, um, tool rather than, you know, a formal recommendation of some kind or a regulatory tweak or a corporate oversight?

Why not share what we've seen so that any suspecting and hopefully due diligence-oriented buyer will see what we've seen, and they'll know where to look, particularly, if that's not their expertise, or if they're buying the asset for some other reason than true day-to-day operation?

Vidisha: It's definitely not a path we considered in this investigation but something to consider for future investigations.

Member Kulinowski: Indeed. Um, my second question then, is, in Recommendation 1, the use of the phrase and/or gives EPA some flexibility in which of SPCC, FRP, or Accidental Release Prevention Program, it can revise to meet our recommendation. So I'm wondering about the – the choice of that phraseology, um, in – in giving EPA that flexibility. Are these mutually exclusive? Um, do they all meet the same end? And if EPA were to choose only one of these, which it could to meet – to meet the language of the recommendation, which would have the greatest impact on safety?

Vidisha: So they are mutually exclusive. You know, SPCC covers – has the overfill requirement. The FRP has the substantial harm requirement, and then, um, the Accidental Release Prevention Program, or the RMP, uh, has the risk assessment and RAGAGEP. Now, um, EPA asked us for this leverage when we were talking about – when we were developing our recommendations. And we agreed with them. Um, but, you know I think the – the best recommendation would be, uh, risk assessment under the, uh, Risk Management Plan and have them do a risk assessment and then be held accountable to RAGAGEP, and design their operation and safety until a level of risk be identified.

Member Kulinowski: Thank you.

Chair Sutherland: I will double check to make sure Member Ehrlich is not on the line with a question? Not yet? Then I just have one more question, uh, Vidisha. And it might be to you and Veronica before we open up for public comment. Um, you mentioned four incidents in total. So in addition to, um, CAPECO, one was in '83, one was in '05, one was in '09, and the other one is in 2010. Two were US, and two were international. Based on, um, your experience with a lot of investigations, is that a lot of incidents that, um, sort of indicate there needs to be more substantive, regulatory and – and standards changes?

Or is that a small amount that may not necessarily be representative of, you know, sort of industry practice and safety record?

Vidisha: So I'm not sure if I – I might have skipped over this slide. But, you know, we looked at the toxic release of entire database and EPA's **CRI** data and tried to look up the terminals and where they were located. And we found that, you know, um, over the – about 3,000 terminals are located about, um, 1 mile from residential populations over 300,000. Now, these catastrophic accidents are infrequent, but they're high-consequence. So when they do occur, they have such substantial, um, public consequence that they do require that we – we plan and develop recommendations accordingly to prevent them.

So in terms of whether this is a large number or not, I – you know, **[inaudible] [01:14:32]** was one major accident. And so and then similarly, Buncefield in the UK is pretty much the exact same accident that occurred there. And it really caused them to re-evaluate how they – they regulate and manage these facilities.

Chair Sutherland: Thank you. Uh, if there are no other Board questions, I – I do know we have Member Ehrlich on the line. Uh, Member Ehrlich, to you happen to have any questions before we, uh, open the floor to public comment?

Member Ehrlich: I do not at this point. Um, I would like guidance on when to make a motion, Madam Chairman.

Chair Sutherland: Okay. We will do that immediately following the public comment.

Member Ehrlich: Thank you.

Chair Sutherland: So, uh, I have a handful from the email submission process. Again, remember, you can email your comments, uh, about this report or later agenda items. But first, I have, uh, from the audience, Katie **Vasalli**.

Katie: Very good.

Chair Sutherland: Thank you.

Katie: Good afternoon. My name is Katie Vasalli. I'm the manager of Member Education Services for the International Liquid Terminals Association. And we've had the pleasure of getting to work with

the CSB through the investigation and, um, providing them information as it relates to the terminal industry. Um, we also previously shared our issues with the draft report, specifically as it relates to the initial recommendations, um, that were included, um, in previous comments, as well as in written comments, um, during the review process.

Um, I would just like to note that our comments indicate – or reflect -- alternative recommendations that address the root cause as opposed to, um, calling for more aggressive regulations and, importantly, noting that many of the failures that were deemed to be part of the root causes of the incident were because the company failed to actually comply with existing regulations. Um, it is our understanding that most of our members, if not all of them, as we hope, are in compliance with existing regulations whether it be the SPCC, the Facility Response Plan, or various RMP, because some of our facilities are actually subject to RMP.

Um, and with that, I'd also like to add that it's our understanding, um, as part of the review process that one of the Board Members developed alternative recommendations, which echoed our recommendations, um, that were – that were made in our comments. Um, and **[inaudible] [01:17:20]** ask that, um, the alternative recommendations that were probably a clear expression of dissent against the recommendations presented here today be included in the public record. And, again, we would urge that the report, um, not pass with the recommendations as currently included. Thank you.

Chair Sutherland: Thank you very much for your comments. Uh, I will now read the email comments, which are apparently 2 point font. Okay, let's do this together. My name is **Christophe**, and I apologize, Christophe, I think this is **Sidaropolous**, managing director of, uh, **Foam Fatale** in Greece, which is a fire protection company, specialized in oil storage tank suppression systems. I would like to submit my public comment to the public meeting on October 21, 2015. My comment is related about the fire protection system of the storage tanks, and I would recommend to propose changes to NFPA 11.

The current NFPA 11 recommendation for the fire protection of storage tanks says for fixed roof storage tanks up to 9, uh, looks

like this is million foam hand lines and foam monitors up to 18 – no, actually, that is it says diameter (NFPA 11 5.2.4.1). I apologize, Mr. Sidaropolous. A couple of these look like, um, they might be, uh, kind of cut off. Fixed system is not a requirement. Consequently, the incipient fire of these tanks cannot be extinguished. Additionally, NFPA says that consideration shall be given to potential foam losses from wind, which is NFPA 11 5.2.4.2.1.

And on the other hand, it shall be assumed that all the foam reaches the area being protected, which is NFPA A 5.2.4.21. In the meantime, experience and exercises show that 60 percent foam allowance shall be considered for [losses] from wind. The NFPA recommended discharge device for surface application of fixed roof tanks is the foam chamber. On the other hand, NFPA 11 says that the foam chamber disruption often arises as a result of an initial tank explosion or the presence of fire surrounding the tank. So the foam chamber probably will not function when it is needed.

Consequently, the fire cannot be extinguished with the system. There is no recommendation for open-top floating roof storage tank full surface fire protection (NFPA 11 5.3). Open-top floating roof tank full surface fires cannot be extinguished as per NFPA 11. NFPA 11 recommendation about the foam concentrate quantity enough to – I'm sorry, enough to calculate for one storage tank fire regardless the number of the storage tanks in the terminal. As the foam demand is calculated for one storage tank fire at a time in a terminal where there are 20 storage tanks and the incipient fire cannot be extinguished, the exposure to multiple storage tank fire will remain.

Please watch our storage tank fire video collection happens throughout the world. These are NFPA 11 design foam systems during operation or when they were supposed to operate, and then there's a You Tube link. This will be added to, um, the record. Um, the email just closes, I kindly request that you consider my public comment at the public meeting, uh, and enter, uh, these comments. And please advise if my public comment cannot be considered. It – it can be and will be considered and will be entered into the, uh, final public record. The next email comment, um, is from Brian **Laurie**.

And this says my question for the meeting is below. If we look at cause and effect in the current CSB investigations, Exxon Mobil Torrance, West Fertilizer, Freedom Industries, DuPont La Porte, **Macondo**, and Williams **Olefins**, when will there be a move toward a more proactive position being directive, uh, on RCFA to mitigate and avoid further incidents by reducing ignition sources, such as appropriate electrical equipment and hazardous area inspection and training? Um, best regards. Um, so Mr. Laurie, I suppose I can offer that up to Ms. Parasram as well. I'm not sure if it's a question specifically related.

It seems like it's much broader than CAPECO. Um, and what you're really asking is, in general, for our investigative efforts, uh, including our open cases, um, when will we be including those or being more proactive? And I would say, although I welcome my Board Members' comments, I think the CSB's recommendations are meant to be proactive, although they are the result of an incident. Um, we do have a lot of data and certainly are very interested in taking a look at that data for various studies or sharing or outreach and advocacy. Um, so certainly, we will add your comment to the public record.

I don't know if Member Kulinowski or Member Engler have any additional thoughts or Member Ehrlich. Um, but we will absolutely consider your feedback on root cause, in general, as it relates to CAPECO and other investigations. Um, I just want to prove to everyone, it's not – it's not me. Okay. My eyes have aged, but this font is really being mean to me at the moment. Um, we do have another, uh, comment in the audience, and I will recognize, um, Mr. Wright in a moment. But this, uh, comment is specific to Caribbean Petroleum, and it's from, uh, Mr. Mark **Tranfield**.

Um, I have read the report on the incident regarding the explosion at the Caribbean Petroleum storage facility, and I would like to make a suggestion. There seems to be a few missed points that could prevent catastrophic explosions, such as this incident, and should be considered in this investigation. It appears that all of the attention is focused on the reasons why the tank overfill occurred, and why the safeguards failed, rather than the sources of ignition. It has been my [advocacy] for many years that there should be an additional safeguard or safeguards than just the primary safeguards in such places where a catastrophic incident may occur.

Within the petro-chemical industry, and certain other industries, where an explosive atmosphere may occur (refineries, oil rigs, L&G plants, mines, flower and sugar mills, chemical plants, etc.), it is a common practice to have a management system in place, which reduces sources of ignition, should there be a failure of equipment and a leak of explosive liquid or cloud may form. In this incident, it would seem that a source of ignition was found at the water treatment facility. One of the most common sources of ignition is electrical equipment. And, for this reason, and these areas, as described above, special precautions are put into place, like, "all electrical equipment are to be explosion-proof."

For example, if an explosion environment occurs, it will prevent an explosion. In addition to this, this equipment is required, and it has to be correctly maintained to certain standards to ensure it maintains its integrity. While incidents are always likely to occur for one reason or another, they may cause an explosive environment. If the sources of ignition are removed, then there is not going to be an explosion. API 505 and NEC 505 standards call upon certain equipment – requirements for equipment in this regard, which should be compiled, uh, with – with **[inaudible] [01:25:33]** report to prevent incidents such as the above from happening.

Should you want more information on this or discuss, please let me know, as it is very important, not only for this incident, but for others, as well, as I have seen reported. Uh, kind regards, uh, Mark Tranfield. So we will also include, uh, your remarks in the record. Uh, one more is, uh, 'To CSB: With corporations downsizing staffing of operational personnel at terminals and, at the same time, requiring higher pumping rates, is there any thought about limiting pumping rates during topping off of tanks, meaning lowering the pumping rates when the tank is almost filled?' Uh, and this is from **IBT877** President John **Payjack**.

Vidisha: So we have – **[audio silence] [01:26:34]**.

Member Engler: And, uh – and an actual regulation because I know that's been an issue, uh, in this report and occasionally in others. We very much believe in voluntary efforts. We think that they're very useful. We've been involved in **ANSI** standards and in API standards.

Um, but they're not a replacement for regulation. The problem with voluntary standards is that not everybody volunteers, um, and so you need regulation as a backup. And that's especially true when it comes to atmospheric storage tanks where, um, a lot of them are operated by facilities, which are not necessarily members of API, for example.

Um, most refineries, or perhaps all refineries in the US, um, are – are in API. But, um, there are a lot of atmospheric storage tanks, um, operated by – by entities, which are not, uh, a part of really any kind of, um – of positive industry trade association. One example, uh, is Freedom Industries, which we'll hear about later on today. Um, of course, that was not a flammable release, although the material was flammable. But, um – but it was a significant, uh, event nonetheless. So – so thank you for the recommendations and, uh, we strongly support them. We especially strongly support the recommendations – the recommendations to OSHA and EPA.

Chair Sutherland: Thank you very much for your comments. Do we have any other comments from the room? Mr. Winfrey?

Mr. Winfrey: Good afternoon, my name is Greg Winfrey. Uh, to the Chair Sutherland, to the members of the Board, to the staff, thank you for that excellent presentation and, uh, dissertation on the causes of the incident. I just wanted to comment on Mr. Tranfield's remarks. Uh, I concur completely. Uh, the danger is with, uh, vapor cloud migration and emission from distant sources. So that is a key issue. But what I would also add is that sources of static emission need to be considered as well. Having worked in industries that dealt with these issues, static electricity as well as distant electric or electronic emission sources are a significant concern. Thank you.

Chair Sutherland: Thank you very much for your comments. Do we have any other comments from the room? Did you want me to check, um, Ms. Parasram, if, uh, Bill is on the line, or do we just want to defer that until later?

Vidisha: Oh, Bill? That's fine.

Chair Sutherland: Okay.

Vidisha: There was one additional –

Chair Sutherland: Yes?

Azida: Thank you very much. Excellent presentation. I was at the last meeting as well, so, um, this one is better. Um, um, I'm, uh, **Azida [inaudible] [01:30:58]** with the International Brotherhood of Teamsters in the Health Department. Um, uh, just wanted to follow up on the question of, um, the pumping, um – pumping weight. And I was wondering if that was related to the, um – one of the, um, observations earlier in the presentation about, um, um, penalties for – you know, if unloading took longer, um, penalities on the, um, uh, CAPECO.

And also, I was wondering, you know, if there would be an, um, um, concomitant, uh, penalty on the workers for, you know, taking longer for whatever reason, and if that issue is something that you looked at as a possible contributor to the issue, and if that's something that you think, in terms of prevention, you know, it's something that could be addressed, um, um, you know, since prevention is – is key, uh – key, um, you know, mandate of yours, um, because I think that this whole issue of, you know, time constraints, pressures is, I think, significant in a lot of the incidents that you're familiar with and you probably have come across.

Vidisha: So, uh, that notion of negotiating the time it takes to fill a tank and, um, the facility actually would gain money if they – they completed the tasks in a faster amount of time. So if they filled all the tanks two hours before they were supposed to, they would actually – there's a rate – that same rate, they'd get that money back. So yes, there is a time pressure to fill the tanks at a faster rate. Um, we – but that's completely normal in the industry. Um, when we talked to other tank terminals, they said, yes, **overage** is normal and that's what we do. Um, so we didn't – for lack of resources, we didn't fully explore that issue as much as we'd like to.

Chair Sutherland: Thank you for that question. If there are no other comments or questions from the room or by email, Shauna, do we have other comments? Then I would like to thank everybody who made a public comment or had a public question. These reports can be very complicated. And we very much like to get additional follow

up items or things that we should look at or, um, that people appreciated that we actually did do very extensive research into. I appreciate the Board's participation as well. And, uh, if there are no other comments from, uh, Member Ehrlich who is the only one I can't see on the phone, then I would like to, um, move forward for the Board vote.

Um, we have one, uh, motion that is, um, on the table. It was tabled from earlier. And I will now turn the meeting to, uh, either Member Ehrlich, if he can hear us, or our acting General Counsel, Wenzel, to read that motion.

Member Ehrlich: Madam Chairperson, I can hear you. I really have no other comments. I would, however, like to offer – I'm sorry.

Counsel Wenzel: I received Member Ehrlich's proxy to present this motion. Chair, I move to approve the CSB report – pardon me, I'm just wanting to note that this motion is brought based on a circulated notation item, 201553 that was sent out on August 3, 2015, to approve a modified version of the staff's CAPECO investigation report. That item was calendared for consideration at the Board's next public business meeting, which is today. So Chair, I move to approve the CSB report on the Caribbean Petroleum incident with the following modifications.

The first is to delete recommendations R1, R2, and R3 to the US Environmental Protection Agency, and also delete recommendation R4 to the US Occupational Safety and Health Administration. The second modification is to add a new recommendation, R1, to the US Environmental Protection Agency. And that would read as follows. Develop a program to improve the enforcement and implementation of the petroleum tank overfill prevention requirements under 40CFR 112.8, seeking additional resources if necessary. At a minimum, the program shall include: 1) increased inspections of high-risk SPCC-covered facilities to determine compliance with overfill prevention requirements;

2) additional guidance clarifying which up to date industry consensus standards and recommended practices should be followed in order to comply with a good engineering practice requirement under 40 CFR 112.8(c)(8); and

3) educating the SPCC-regulated community concerning its obligations under 40 CFR 112.8(c)(8), for example, through development of a safety bulletin referencing the Caribbean Petroleum incident and the related Buncefield incident in the United Kingdom.

Chair Sutherland: Is there a second to the motion?

Member Kulinowski: I second.

Chair Sutherland: It is moved and seconded to adopt the Caribbean Petroleum report, um, without recommendations R1, R2, R3, and R4, but with the addition of a new recommendation R1 to the US, uh, EPA, Environmental Protection Agency, as just read by acting General Counsel Wenzel. Uh, does Member Ehrlich have any comments to make before we, uh, open the floor for discussion? Are there any comments from, uh, Member Ehrlich? Okay. He can't hear us. He can come – we can come back to him. Member Engler?

Member Engler: Thank you. I want to be quite clear about, uh, my position on this. First of all, I think there's a – a fundamental inaccuracy in understanding the legal framework here. The proposed regulatory recommendation by the CSB staff, uh, that would, uh, make, uh – to EPA would not, in fact, prove redundant or duplicative if adopted by that agency. According to the urgent notation that was previously, uh, distributed by Member Ehrlich to the Board, and I quote, 'The US EPA already has regulations under the Spill Prevention Control and Countermeasure rule to prevent the overfilling of petroleum tanks, including gasoline storage tanks, at Caribbean Petroleum.

The regulations require facilities to follow good engineering practices to avoid overfills, including level detection and/or alarms for petroleum storage tanks. Each facility's prevention plan must be certified by a licensed professional engineer. Fully complying with the existing regulations may (and I emphasize the word may) already require more than one layer of protection against overfill.' The key word here is "may." So the CSB-recommended EPA rule would not, in fact, be duplicative since this part of the EPA rule is, in fact, discretionary. There were additional arguments, uh, and you can refer to the transcript from the prior meeting, uh, where

this was considered that were made by Member Ehrlich. First, they would be, "burdensome for industry".

This assertion is made with no documentation. As a prescribed part of the regulatory process, EPA, if it determined to proceed – uh, to propose or consider such a rule, would evaluate the economic cost to the industry, as well as the benefits to public safety in the environment. While I support reasonable cost benefit assessment, it is not the statutory role of the CSB to conduct that analysis.

I also note that requiring seat belts, taking the lead out of gasoline, and numerous other public health and safety protections required, uh, many years before these actions were – were taken and, at the time of their initial proposal, were considered burdensome. Twenty-four years passed before the National Highway Safety Traffic Administration required trucks to have anti-lock brakes as recommended by the National Transportation Safety Board. Positive train control systems, uh, were mandated in 2008 and seven years later are, hopefully, just coming to fruition. I say hopefully because I ride the Amtrak, uh – Amtrak train, uh, home twice – uh, you know, twice a week.

And I would like the trains that I ride on to have proper safeguards. Uh, and it took years and years of advocacy for workers, communities, and firefighters to have the legal right to know what chemical hazards are used in our work places or released into our communities. Second argument, uh, that was used in promoting, uh, this all – uh, this, uh, notation item is that the recommendation to EPA and OSHA would not reflect the stated priorities of already overstretched regulatory agencies. The CSB was established in 1990 as an independent federal agency not as an arm of EPA or OSHA.

But the Board was never funded until 1998 because the Clinton administration refused to fund it. Uh, the – the assertion at that time was that the CSB was entirely redundant of EPA and OSHA. Congress reasserted the need for, uh, the CSB to act as an independent agency that could call upon OSHA and EPA to act. And as a result of that, the Board, of course, was funded for the first time in 1998. But Congress made it very clear that our – that we are an independent agency to make recommendations that are,

in fact, not based on what the stated priorities of – of – of another regulatory – of a regulatory agency are.

So it's very important that – that regardless of how our recommendations end up, that we make them based on an independent basis. Further, if an agency is "overstretched", it is incumbent upon us, when making recommendations, to clearly demonstrate the underlying need for new safeguards, as our staff has done so well with this particular report. Third, Member Ehrlich argues that the proposed recommendations would do little to reduce the risk to the public for any facilities like CAPECO that fall far short of complying with existing regulatory standards. This argument is also fundamentally flawed.

It's logical conclusion is that, uh, not to have regulatory safeguards because if there is one bad actor who won't comply with them, we can't have across the Board standards that are properly enforced. Why not abolish all existing protections? Over our history, CSB has used its authority to make regulatory recommendations to EPA cautiously. Of 740 CSB recommendations made to date, according to the database from our Recommendations Department, only 16, just 2 percent, call on OSHA or EPA to revise or adopt new rules. Just four recommendations have been made, in fact, to EPA alone.

Can we predict that EPA will promptly issue a rule, however justified, because the CSB recommends that it do so? Of course, we can't. But this should not stop us from seeking the best solutions that could prevent a catastrophe, especially in a situation where these are, uh, such high-consequence, even if low probability, events. I believe that we have a statutory, scientific, and ethical imperatives to identify where current regulations do not provide sufficient protections for the American people. I will, therefore, vote "no" on this motion.

Chair Sutherland: Member Ehrlich, are you back on the line?

Member Ehrlich: **[Inaudible] [01:43:25]**.

Chair Sutherland: We have just read the motion that you proposed on August 3. We started with Board comments. Um, I will – before I come back to you, I will, uh, ask Member Kulinowski if she has any questions. And then we can return to you.

Member Kulinowski: I have no comment.

Chair Sutherland: Okay. So Member Ehrlich, did you have any comments about the motion, uh, that is currently on the floor for discussion?

Member Ehrlich: To the extent that I had conversations with officials from EPA about the recommendations, um, their – their comment to me was, um, basically, that it was something for it – um, even – even from an additional oversight or, um, enforcement perspective, they'd like to know, um – they'd like to have some basis that how many – how many organizations in this country that that would apply to, and could they base the additional burden of, um, expense based on one incident. Um, I had discussed this with a number of folks.

And, uh, the – they basically don't want to be in the business of identifying cost and profit margins, which we can clearly understand. Clearly, I understand Board Member Engler's opinion, but we still, uh, would like to see the motion approved as read.

Chair Sutherland: Thank you, Member Ehrlich. May I ask you a follow up question on your, uh, conversation with the EPA officials? You said based on one incident, which I clearly understand is CAPECO. Does that mean they did not consider the 1983 New Jersey event or the, um, 2010 Huntington, Indiana event germane to the CAPECO accident?

Member Ehrlich: That's correct. They did not in that context.

Chair Sutherland: Okay. Generally, I – I don't know that we have done this, but if there are any follow-up questions from the, uh, members of the audience, then I would certainly welcome public comment in that regard. I know that we gave public comment, um, opportunity after the investigative report was read. But given the number of people that we have in the audience, if there are any follow-up comments before the Board votes, I would welcome raising your hand to return to the microphone. And, just, if you can give your name and organization again.

Katie: Hi, Katie Vasalli with the International Liquid Terminals, and I would just like to state that ILTA would support the, uh, revised,

uh, recommendations as proposed by, uh, Member Ehrlich. Thank you.

Chair Sutherland: Thank you. Are there any other comments? Okay. If there are no other comments, then, uh, I will restate the motion. The question is on the adoption of the Caribbean Petroleum report, uh, with recommendations R1, R2, R3, and R4 deleted and a new recommendation R1 to the US Environmental Protection Agency to be read as follows: Develop a program to improve the enforcement and implementation of the petroleum tank overfill prevention requirements under 40 CFR Section 112.8, seeking additional resources, if necessary; at a minimum, the program shall include increased inspections of high risk SPCC-covered facilities to determine compliance with overfill prevention requirements;

2) additional guidance clarifying which up-to-date industry consensus standards and recommended practices should be followed in order to comply with the good engineering practice requirement under 40 CFR 112.8(c)(8); and educating the SPCC-regulated community, uh, concerning its obligations under 40 CFR 112.8(c)(8), for example, through development of a safety bulletin referencing the Caribbean Petroleum incident and the related Buncefield incident in the United Kingdom. Now, we will call for the role, Counsel Wenzel.

Counsel Wenzel: Member Ehrlich?

Member Ehrlich: Voting the affirmative, yay.

Counsel Wenzel: Member Engler?

Member Engler: No.

Counsel Wenzel: Member Kulinowski?

Member Kulinowski: No.

Counsel Wenzel: Chairperson Member Sutherland?

Chair Sutherland: No. But I will say that both Members Ehrlich and Engler put forth extremely well reasoned positions, and I thank them for the more

extensive comments and explanation around the motion and their, uh, perspectives on it.

Member Ehrlich: Thank you, Madam Chairperson.

Counsel Wenzel: So the motion fails.

Chair Sutherland: Are there any further motions related to the CAPECO investigation report? Member Engler?

Member Engler: Yes. I move to adopt and release the proposed final investigation report, including the proposed recommendations, as the Board's report and recommendations on the Caribbean Petroleum incident, as well as the accompanying video.

Chair Sutherland: Is there a second?

Member Kulinowski: I second.

Chair Sutherland: Is there any discussion? Member Kulinowski?

Member Kulinowski: No.

Chair Sutherland: Member Engler? Member Ehrlich?

Member Ehrlich: No. No further discussion. I'm sorry, were you calling the motion?

Chair Sutherland: Yes.

Member Ehrlich: Okay. All right.

Chair Sutherland: Um, is there any further debate, comment in the audience? Seeing none, the question is on the adoption of the Caribbean Petroleum investigation report and its current recommendations, along with the accompanying safety video as presented by the CSB staff. Counsel Wenzel will now call the role.

Counsel Wenzel: Member Ehrlich?

Member Ehrlich: No.

Counsel Wenzel: Member Engler?

Member Engler: Yes.

Counsel Wenzel: Member Kulinowski?

Member Kulinowski: Yes.

Counsel Wenzel: Chairperson and Member Sutherland?

Chair Sutherland: Yes.

Counsel Wenzel: The motion passes.

Chair Sutherland: Thank you to everybody for, uh, the comments. We are going to take a short 15-minute break. And I ask that everybody return promptly at 3:05 to continue the second portion of the meeting, which we'll discuss operational issues at the CSB, our investigative update, and our action plan.

Member Ehrlich: Thank you.

Chair Sutherland: We will now, begin the second portion of our meeting, beginning with an overview of the CSB's open investigations. First, I will discuss the CSB's ExxonMobil investigation. And then we will hear from each of the other Board Members, um, uh, for some of the other ongoing investigations. On February 18, 2015, an explosion occurred in the electrostatic precipitator, or ESP, at the ExxonMobil Refinery in Torrance, California, near Los Angeles. The explosion injured four workers, caused significant property damage to multiple process units within the refinery, and resulted in an offsite accidental release of catalyst dust.

Debris from the ESP fell onto neighboring units within the refinery, including the **alkylation** unit and platinum **reformer** unit. Multiple pieces of the equipment in the platinum reformer unit were affected by debris and failed. During the ESP explosion, there was also a near miss release of hydrofluoric acid when a large piece, approximately 80,000 pounds, of ESP debris fell within feet of a storage vessel storage – storing thousands of gallons of modified hydrofluoric acid in the neighboring alkylation unit.

If the storage vessel had failed due to impact from ESP debris following the explosion, hydrofluoric acid could have been released. Based on the release characteristics of hydrofluoric acid, potentially hundreds or thousands of workers or community members could have been exposed to the toxic gas with the possibility of injuries or fatalities. The current status of that investigation is that the, uh, Board is providing comments on a scoping document. And we are planning on an interim public meeting in California sometime this December, we hope.

Um, there will be more information posted when we actually schedule the public meeting on its date, time, and location on our website and through the distribution lists that we have. Next, um, Member Engler, I believe – oh, Member Ehrlich will provide an update on the Board's West Fertilizer investigation. Member Ehrlich, are you still on the phone? Oh, he's taking himself off mute. Manny, Member Ehrlich, are you on the line?

Member Ehrlich: Yes, I am. Can you – can you hear me?

Chair Sutherland: We can hear you. Um, can you provide an update on West Fertilizer?

Member Ehrlich: Yes, um, I can. Um, late last week, um, Johnny Banks provided us with, uh, the first five chapters of the final report on West and – and have been through technical review. Um, and they're being reviewed by Board Members at this point, myself included. I was lucky enough to have the opportunity to, uh, review Chapter 7, uh, on emergency response, because that's what the topic of my presentation was in Valley Forge yesterday, and in, um, Houston today. Uh, the general consensus is that, uh, we will be looking towards having a public meeting, uh, in, uh, I believe Waco, Texas, in November.

And should there be a problem in getting through the report at that point, I believe that we will have a public meeting to discuss where we are, and what the next steps are. But the, uh – but the investigation report is in its final stages now. And I feel confident that, uh, we will be able to – or they – the agency will be able to wrap it up fairly shortly.

Chair Sutherland: Great. Thank you, Member Ehrlich. Now, we will here from Member Kulinowski who will update us on Freedom Industries.

Member Kulinowski: Uh, on January 9, 2014, an estimated 10,000 gallons of a mixture of 4 methylcyclohexane methanol, or MCHM, and propylene glycol phenyl ethers, or PPH, leaked from an above-ground storage tank into the Elk River in Charleston, West Virginia. The storage tank was part of the Etowah River Terminal Facility operated at the time by Freedom Industries. MCHM, the primary component of the mixture, is a compound used in the coal industry to separate coal from other components such as rocks and debris.

The MCHM mixture leaked 1.5 miles upstream of the West Virginia American Water Company's water treatment intake, uh, and the chemicals contaminated drinking water, resulting in a "Do Not Use" order for up to 300,000 residents in 9 West Virginia counties. According to an analysis of medical records by the West Virginia Bureau of Public Health and the US Centers for Disease Control and Prevention, or CDC, 369 people were treated for possible exposure to the leaked chemicals. Thirteen of these were hospitalized.

The proposed primary roots of exposure were dermal exposure from bathing, ingestion exposure from consumption or drinking water, and inhalation exposure from breathing compounds volatilized from heated water while bathing. The primary health complaints were nausea, rash, vomiting, abdominal pain, and diarrhea—symptoms that are consistent with the roots of exposure and the known acute health effects of MCHM on animals. Most people, fortunately, were provided treatment for their symptoms and released from the hospital without being admitted.

Uh, CSB investigators arrived on the scene and commenced their investigation on January 13, four days after the leak was detected. During the field deployment phase of the investigation, the team conducted witness interviews of several key groups, including Freedom Industries, West Virginia American Water Company, West Virginia Department of Environmental Protection, and a contractor. In addition, the team: photo-documented and mapped the site; attended MCHM sample collection activities with OSHA inspectors; conducted inspections of the tanks; and extracted metal

coupons, or samples of the tanks, for further analysis. The current status of the investigation is as follows.

Uh, the investigators continued to conduct metallurgical testing of the tank coupons, um, a deeper exploration of the chemistry of MCHM, developing guidance on storage and handling of MCHM for the industry, and gathering additional information on the public health impacts of exposure to MCHM, about which there has been very little research to date. So the staff are preparing a draft report, and have set a target for completion of this investigation and Board approval sometime in the second quarter of calendar year 2016. And we expect the CSB will hold a public meeting in Charleston, West Virginia, in conjunction with the report's release.

Chair Sutherland: Thank you, Member Kulinowski. Member Engler, can you, uh, discuss where we are with DuPont La Porte?

Member Engler: Yes, thank you. On November 15, 2014, nearly 24,000 pounds of methyl mercaptan was released inside the **Lannate®** unit at the DuPont Chemical Facility in La Porte, Texas. The release resulted in the deaths of four employees from asphyxiation and acute exposure to toxic chemicals, including methyl mercaptan. Three other workers were injured. To date, no offsite injuries, uh, have been reported. DuPont notably had three fatality incidents that CSB has investigated in the last five years at, uh, additional locations. CSB, after a seven month, uh, staff deployment, released interim recommendations at a public meeting on September 30 in Houston, Texas.

And I should note, it was quite well-attended, with roughly 150 or 160 people present. We met with the families. Uh, we met, uh, uh – we toured the facility. And, uh, clearly, there is an enormous public, uh, interest continuing in this investigation. Uh, the recommendations that were made in that report, which are on our, uh, website, uh, related to: inherently safer technology review; safety of the manufacturing building; release system design; more robust process hazard analyses; workforce participation; and public transparency.
And recommendations were made primarily to the DuPont – DuPont management, but also to encourage DuPont and the International Chemical Workers' Union Council to, uh, participate jointly in addressing these issues on an ongoing, um, basis. The

CSB investigation continues. Potential areas of future inquiry may include: the adequacy of management systems and procedures; process hazard analysis; hazard recognition; communication and training; and emergency response.

The Board will be, uh, considering the focus of the – this investigation in the coming weeks and, again, more information, including the, uh, animation, the transcript of the meeting, uh, the, recommendations document, are all on our website at csb.gov.

Chair Sutherland: Thank you, Member Engler. Uh, and I will provide the last two updates, which are the DeepWater Horizon, or **Macondo** Well, uh, explosion, and Williams **Olefins**. Just to remind everybody, I'll make it very brief. The, um, drilling rig explosion and fire at the Macondo Well was a multiple-fatality incident that occurred, uh, at the Macondo Oil Well approximately 50 miles off the coast of Louisiana in the Gulf of Mexico during temporary well-abandonment activities on the DeepWater Horizon drilling rig. Control of the well was lost, resulting in a blowout, the uncontrolled release of oil and gas, hydrocarbons, from the well. On the rig, the hydrocarbons found an ignition source and ignited.

And the resulting explosion and fire led to the deaths of 11 individuals, serious physical injuries to 17 others, the evacuation of 115 individuals from the rig, the sinking of the DeepWater Horizon, uh, and, as many of us watched daily, massive marine and coastal damage from a reported 4 billion – uh, 4 million barrels of released hydrocarbons. The current status of that is, uh, that the final two volumes of the CSB Macondo investigations report, which are Volumes 3 and 4, are currently with the Board for their review.

After Board review is completed, and the staff has implemented changes, uh, or edits from the Board's comments, the volumes will go through additional phases of review with external stakeholders and potential recommendation recipients, as well as a final review by the Board. Um, at this point, we are hoping to have completion of those volumes, um, so that we could have a possible public meeting in early 2016 to discuss and then vote on those, uh, two volumes. For Williams in Louisiana, on June 13, 2013, over 30,000 pounds of flammable hydrocarbon was released at the Williams Olefins Plant, uh, in Geismar, Louisiana.

Two workers were killed, and over 100 other employees and contractors were injured as a result of the incident, which occurred when a distillation column heat exchanger catastrophically failed. The current scope, uh, and status of that investigation is, um, still being refined, uh, internally at the CSB. The investigation team is very close, however, to circulation of a draft report for internal review. Timing for a final report will really depend on many of the other investigations and public meetings that we mentioned a moment ago. But a final voting and possible, um, presentation of that investigative, uh, product could be in early 2016 as well.

So, um, if there are no additional member comments on the reports or statuses, then we will move to the FY – to the FY '15 Action Plan. Um, first (oh, good, he's still here, so that I can embarrass him appropriately) I'd like to thank John **Lau**, um, for helping to, uh, continually keep the, you know, metal pressed down for us to do a draft FY 2015 Action Plan. As many of you know, Kristen Kulinowski and I started within a week of each other in August. So it's been roughly eight weeks or so. And one of the first things that we did, um, when we arrived was, you know, hear about kind of making sure that we were wrapping up the year and – and looking forward.

Um, the CSB FY 2015 Action Plan was originally drafted in November 2014 as a framework. And it was modeled off of the strategic plan. Um, it sort of went through various iterations until May 2015. And then, obviously, you know, many issues did not allow people to focus on completing that. Um, when John and I met, we talked about it. And, um, I learned that Member Engler had wanted to really continue to push that forward over the summer. And so the three of us, uh, created a little triumvirate and, uh, have a draft. So Member Engler and I will talk about that. We are co-leading that effort for CSB to make sure that we capture our quarterly accomplishments.

And there have been many. Thank you to the staff in advance for all the things that, even though I wasn't there, you did in Q1, Q2, and Q3. Um, and now, I will introduce Member Engler again to share our progress on the overall action plan, um, and status.

Member Engler: Yes. And just as a way of also introducing this, uh, I think that it is quite, uh, wonderful that the staff who is passionately dedicated to

the mission of the CSB, was able to stay on focus despite the turbulence at the CSB. Uh, I'm not going to dwell on it. I think everyone who has followed the CSB in the last year knows that there have been, uh, significant controversies and changes. And the fact that the staff was able to produce, uh, as much important work as they did is something that I think they are all to be commended for.

Chair Sutherland: And Rick, before you – before you start with the accomplishments, I want to make sure I'm following our direction. And those who are organizing the meeting, you may, um, want to get your email comments in if you have any questions about the investigations report that we just, uh, provided or anything that we're about to discuss in the Action Plan. Please email your comments by 3:45 to meeting@csb.gov. Sorry about that, Rick.

Member Engler: Sure. And I – I'm essentially going to just summarize bullet points, uh, of work that we did very brief – as briefly as I can. And, again, more information is on the CSB website. So in terms of investigations, you've – you've heard about those, uh, that are in progress, completed products from prior work dated back for the fiscal year, remember the federal fiscal year begins, uh, uh, October 1. Uh, includes a methanol safety bulletin, the Chevron Final Report, the Millard Refrigeration Safety Bulletin, the US Inc. Case Study, the DuPont Interim Recommendations. Uh, in terms of recommendations overall, we closed 24 safety recommendations.

They – information about them, uh, uh, about all of them are on our website. We held, uh, public meetings and news conference. And among the topics covered were Chevron, US Inc., Millard, DuPont. And we also held four CSB business meetings after virtually none had been held in a prior period, including on June 10, a roundtable of stakeholders that had excellent participation from, uh, industry trade associations, labor, environmental, community, and consensus, uh, standard organizations.

There were a number of videos and animations produced, including, reflections on **Bhopal**, DuPont, Millard, uh, the – uh, You Tube, uh, video on the tenth anniversary of BP, **Tesoro**, and of course, uh, based on the approval earlier today, the, uh, CAPECO video. Uh, organizationally, we completed both the

western regional and DC office moves under budget with a – and with a major rent decrease and on time without business interruption. Although, if you talk to the staff who, um, were responsible for the move, you might – they might say well, we had some interruption with this move.

So I appreciate the sentiment that our investigations went on, but as – as someone who has been involved in carrying boxes from building to building, but not this time, um, it was quite a feat. And I would like to invite everybody to come by and visit us at our new offices at 1750 Pennsylvania Avenue. And I was thinking about, you know, what joke to make to the proximity to the White House. And then I said just zip it and don't say anything, um, which I'm sure you will appreciate.

Chair Sutherland: I will.

Member Engler: Um, on governance, I'm really pleased to highlight, uh, some key governance changes that, of course, were not anticipated on – uh, anticipated that would be made more than, uh, uh, a year ago and are certainly not reflected in the, uh – in – in the draft, uh – in any of the draft Action Plans. Specifically, the Board voted to reinstate the 18 Board orders that ensure proper operation and oversight of the agency by the entire Board and adopted regulations to ensure that the Chairperson, uh, will schedule at least four public meetings in DC each year, in addition to the field meetings, to review the, uh, investigation reports.

Calendared motions must be considered at a public meeting within 90 days of the calendaring action, as we just did with the CAPECO, uh, investigation report. Public meetings will include a review of current investigations and Action Plan progress, which we've done today. And Board Members can add agenda items for discussion at public meetings. Uh, overall, I believe that, over the last year, and particularly in recent months, we have done – done much despite the ongoing challenges to stabilize operations, restore appropriate governance, and get us back on the mission toward preventing major chemical incidents.

Chair Sutherland: Thank you, Member Engler. So we have a section in our agenda that says, uh, Board Member discussion, which we left in the event that there were any issues raised during the meeting, either

investigative report, Action Plan updates, uh, that they wanted to share or any content. Um, so I will just go down the line again. Member Kulinowski, do you have any additional comments?

Member Kulinowski: I do not.

Chair Sutherland: Is Member Ehrlich still on the phone? You sound a lot different, Member Ehrlich.

Member Ehrlich: I am.

Chair Sutherland: Do – do you have any additional comments, uh, about the – the agenda items, the report, or anything that we've covered today?

Member Ehrlich: Well, only to the extent that I didn't provide as much of an overview of West as I could have. But I think it's well known that that was the fertilizer explosion in West Texas that took 15 lives. And I'm sorry I didn't cover that on the first go around. Did you hear that?

Chair Sutherland: We did. Thank you for that. Uh, and Member Engler?

Member Engler: Just very, uh, briefly, uh, there were a couple of comments on CAPECO that I would like to just – I know that we've discussed that, but that illustrate the type of challenges for this Board given the – the potential scope of work. One was about foam and one was about ignition sources. And, uh, one of our challenges in looking at the causes of investigations of – of, uh – of major chemical incidents is how to get at primary prevention.

And I think that the – the foam comment, while interesting to me, and I know it's a problem of adequate foam supplies in the event of firefighting at major incidents, is if we prevent these types of incidents from happening in the first place at the fundamental level of prevention, uh, the questions of emergency response, while critical, are secondary. In terms of, uh, ignition sources, uh, and I don't see our, uh, Acting Director of Recommendations, Mark **Kaszniak**, in the room at this point. But he pointed out to me that there have, in fact, been extensive discussions of ignition source issues in the past. And their conclusion was that it would be actually very difficult to address all the – the – so many sources of ignition sources.

And, again, it speaks to if we prevent an overfill, if we prevent an incident in the first place, if we can make the operations safer, we will not have to worry about the vapor cloud or other release that then, uh, could be triggered by any number of – of ignition sources. Finally, um, if anyone hasn't signed it, I just raise this because we really want to encourage everyone if you – to sign up for the, uh, CSB, uh, notice – notices of – of public meetings, whether they're in Washington or out in the rest of the country. So if you haven't done that, I think we can facilitate that.

If you want to leave your business card up with us, we can make sure you get notices, uh, in advance of future meetings, whether they're in, uh, California or Waco or DC.

Chair Sutherland: Thank you. Um, I did just receive one, uh, public comment. But luckily, we have general public comment period. So after the Board Member, um, discussion, I will certainly read your comment. I just wanted to let the person know who sent it that I have it. And we'll certainly make sure we read that. So, um, for my update, I was going to simply talk about what I've been doing for the last eight weeks, which does not really feel like eight weeks, um, because it has flown by. Um, but I sent a slightly longer version of what I'm about to share to the staff within the CSB.

It is certainly not meant to be, you know, line by line calendar, um, summary or recreation of – of every single day and hour. But I wanted to give at least a bit of an update of what I have done or been doing or trying to do for the last 60 days, um, as, uh, chair. So I spent the first 60 days doing, um, what I think many in the federal government kind of nickname their "listening tour," um, which I set out to meet a variety of different stakeholders.

And that included, uh, trade associations, OSHA, the EPA Inspector General, OMB, the, um, individual companies, consultants who support our work, um, a few community groups, the ICWUC, um, several, um, uh, individual, uh, response, um, associations that had questions about investigations, and then funneled those forward.

I have met with, uh, the CSB's Congressional Oversight Committees in both houses with both parties, including individual members who sought to, um, meet with me individually after I was confirmed primarily to discuss my background, my approach to learning, managing a federal agency, my previous experience in the federal government, uh, and their questions or interests about various investigations, completion, etc. One of those themes was really transparency. Uh that seemed to be a consistent theme no matter who the stakeholder was, um, that they – until many of the, uh, challenges were brought to public bare, they really didn't know a lot about the day-to-day business, or day-to-day, uh, tasks, of the CSB. So that seemed to be of interest, and didn't really, um, uh, I think, abate over time.

I was also, uh, luckily enough, with a very supportive, uh, team, able to chair the first public meeting that we had, which we, um, held in Texas to approve the interim recommendations related to the ongoing investigation at the DuPont facility in La Porte, which Member Engler just described. Uh, not only was I able to tour their facility with fellow Board Members and meet with the families, we also were able, because we were in Texas, um, to, um, do two tours. One was for an onshore rig facility. Thank you to Mary Beth **Connolly,** who I see in the audience, for helping to organize that, and Cheryl and others, also, taking us to an offshore, uh, rig museum, which was fascinating.

Um, I have had the pleasure of reading every Strategic Plan that the CSB has issued. And I held an offsite with our Board Members to discuss as a group what the possible mission or vision is, given that the mission and vision statements have changed with each CSB Strategic Plan that has been published roughly every four years. Uh, we have spent, um, an all-day period, an all-day meeting, considering what we would like to contribute to the CSB during our tenure…uh, areas of concern, our priorities, and how we might engage the staff to update the current Strategic Plan, which expires next year.

Finally, in an effort to resolve questions about agency governance, I have read, multiple times, the agency's Board Orders, and have convened a team to commence – commence prioritization and update all of the existing orders. And, thank you to Counsel Wenzel for, uh, leading that, uh, Herculean effort. I have attended

numerous internal training sessions on the Sunshine Act, ethics, the Records Act, our statutory and regulatory jurisdiction, uh, external training on strategic human capital planning, and other sessions offered by OPM.

I have scheduled a weekly meeting with the Board, um, where we can, uh, do status reports, not deliberate, and a weekly meeting with the leadership team so that we can all hear what each other is doing. Um, the…there is also a standing weekly meeting for any staff member who wants to just drop by every Thursday—for the staff members who don't have that on your calendar, um, to chat, bring suggestions, thoughts, etc. Um, we've had one All Hands meeting, and another one is scheduled for next week. I have responded to three audits from the Office of Inspector General. One of which we got a very favorable response on.

And of co-led initiatives with my fellow Board Members to: update and finalize the agency's investigative protocol, as we just discussed; work through the Action Plan; and, with Member Kulinowski, review other federal, board, and commission structures for comparative purposes. Over the next 30 to 50 days, I hope to complete my initial listening tour, continue dealing with administrative issues. There's still a lot of procurement, administrative, employment, uh, just day-to-day business that needs to be managed. I will continue to be focused on our organizational health, which not only includes employee or morale matters, but also the procedures and processes and investigation/documentation that guide our work.

We will be working to complete open investigations, as you heard, close recommendations, possibly commence studies. We have a lot of really great ideas from the staff about that. And continue to share our data, videos, and findings as broadly, uh, and as often as possible through various formats. Um, that is a summary, uh, of kind of what I have been doing over the last seven to eight weeks, in addition to really just kind of trying to figure out where the kitchen is. Um, it's a good – it's a good space though. It's a – they moved it after I got there, we moved. Um, so – sorry, Kristen and I have a similar sense of humor.

So if you're not laughing, we think we're hilarious. It's true. Uh, I did want to give one, um, update in absentia. Our finance team

does a great job. And because, like every other federal agency, there's sort of the continuing cycle of, will there be a budget, or, is there Continuing Resolution? Like the rest of the government, we are obviously operating under a CR through December 11, 2015. The funding provided by the CR is sufficient, however, to allow us to continue our operations and our ongoing investigations -- all of the work that we just described will – we will have adequate funds for that.

And we are certainly hopeful that a full-year appropriation will be passed on or before December 11 so that we can act on more long-term initiatives such as strategic planning, and – and possibly, uh, doing some of the other work that we have, uh discussed. We are also working with the Office of Management and Budget on our request for the next fiscal – fiscal year. So we have a draft budget for that. And we want to increase the number of our new investigations outreach and advocacy efforts, uh, and dedication to transparency. By that, I mean funding activities like today's public meeting.

So it's not an insignificant cost for an agency our size to do a webcast, um, rent out a space, rent chairs, host this. But there is…while there's a price to transparency, it's better than the alternative. There is a much greater price to not really having people be able to provide us with feedback and comments and critique and give us the suggestions and, um, input that…that we need and we…we would like. So that's the finance update. So, in case you were wondering, we still have enough money to keep operating. And we are plugging along. Um, and this meeting today would – actually, all of our public meetings, would not happen if it were not for the Communications Department.

Um, Amy McCormick, Shauna Longhorn, and one person, um, who is not here for a very good reason, she's on maternity leave, uh, Hillary Cohen, really help put these meetings together and run smoothly. I never worry about whether the phones or microphones are going to work. Um, and I just learned that they won yet another award for the safety videos. You saw the CAPECO video today. And everywhere I go, people tell me the safety videos are golden and that they are very clear and that they are very much valued, um, as a resource. So thank you to you, and congratulations on your Peer Award.

So, at this time, I'm going to read one of the comments that we received, um, for the public comment period. That is now open. If you have a comment in the audience, simply raise your hand or come to the mic. Shauna will, um, tell you your time limit, etc. Um, but I would like to make sure that people, if you are here, and anyone else who has, I think two minutes or so – two minutes to get your email comments in, that you do that. Please remember to present your comments within three minutes, just to be mindful of time. Um, everyone else who is listening by the webcast, it's meeting@csb.gov.

If you do not, uh, have a comment today, but something later strikes you, you can always send an email to public@csb.gov, which goes into distribution. And we will absolutely get the message. The first public comment, um, is from John Morowetz of the International Chemical Workers' Union Council, Health and Safety Department. Uh, his remarks are: I again thank the CSB team for all of their work at the DuPont site. Is the CSB planning to look at the following five areas related to this investigation?

1) Does the CSB plan to look into the adequacy of the worker computer-based training on the dangers of methyl mercaptan and other hazardous chemicals covered by OSHA's Hazard Communication Standard 1910.1200 Haz Com, and does the standard need to be improved? 2) Is the CSB planning to look if the Process Safety Management Standard [1910.119], PSM, was followed at La Porte, and does it need to be improved? 3) The response to a chemical emergency is generally covered by PSM, Haz Com, and the HAZWOPER [Hazardous Waste Operations and Emergency Response] Standard 1910.120. Were there serious problems in the DuPont methyl mercaptan release in following these standards?

And do these standards adequately cover these types of hazards in this type of release? 4) Was the Respirator Standard, 1910.134 followed? Were workers instructed appropriately to use supplied air respirators? And are there areas where the standard should be strengthened? 5) Has the CSB requested a schedule from DuPont on the progress and completion of the PHA's? So that's a lot. I wish we had had that in writing, because I know I just read that fairly quickly. Um, and John, I don't know if you are listening or

on the phone or via webcast, but, um, you may have heard some of Member Engler's summary of the DuPont La Porte, um, incident report.

Member Engler, do you want to respond to those based on your notes?

Member Engler: I think, uh, some of them are potentially covered. Uh, I think we would welcome further stakeholder input from – from all parties into looking at this further. I do think there is an imperative to have a focused follow-up and – and to issue a report in a timely fashion. And what the particular, uh, uh, precise, uh, focus of the continuing investigation will be. We look forward to further conversation and discussion among the Board and with the staff. So now is the time – to be clear, now is the time, if you do have particularly concerns, and a lot of them do arise out of the DuPont investigation.

There's a wide range of findings. Uh, one could do an investigation entirely on alarm systems based on the – the La Porte incident. But if you have those, uh, uh, proposals that you would like CSB to consider, uh, we would welcome them. And we'll take them quite seriously in the deliberations that will be coming up very soon.

Chair Sutherland: Well, and I – I certainly would say, um, thank you to John if you are, uh, watching the webcast or listening. They're good questions. And certainly, we will continue to bake them in. But I would say, having, um, worked on the DuPont interim recommendations with Don **Holmstrom's** team, uh, in particular, Dan **Tillema**, um, there are a lot of different things that they are thinking about and are very thorough in their investigative review and document review. So, not only do we welcome feedback, I think our team is doing, uh, a spectacular job going through a lot of different information and working with DuPont, uh, to further refine what the final report will look like, um, where we go post-interim recommendations.

Um, and so Don, although Dan may or may not be watching, please tell him that, you know, we will give him whatever support he needs. And others who have comments about the scope, um, and questions that you may want answered, please let us know that

because they are doing a really fantastic job trying to pull together a lot of information. Um, so I will open, uh, the floor and the mic in front of Shauna to anyone in the room who has questions or comments. Mr. Wright?

Mr. Wright: Yeah. Thank you. I know it's late. I'll be brief. Um, I want to – I want to give brief comments on two things. The first is the ExxonMobil, um, Torrance investigation. Uh, um, Chairperson Sutherland, you – you gave a – a good reason why that's an important investigation. And – and that is, uh, the potential, uh, and thank goodness it didn't happen, HF release. Um, as you may know, there are 50 refineries in the US that use HF, uh, either modified or, in many cases, unmodified. Um, we think that the investigation of this accident would be a good chance to really look at that issue more comprehensively.

As you do that, you might want to consider, um, taking a retrospective look at, uh, the Corpus Christi accident, um, the **Citgo** accident, that was, of course, uh, that report and that investigation was cancelled by the Board action back in January. But there must be a lot of information in the Board's possession that would lead to that. Um, as you do that investigation, uh, it would be, um, useful to look first at the intrinsic hazard. But a lot of that work has been done already. Um, second, at the degree to which the risk is being adequately managed currently. There is some work on that.

Our union has done a report on that, which we would commend to you. Um, but third, and especially, look at the alternatives because that has not been adequately researched, um, especially the – the – the kind of pilot studies that are being done on, um – on things like, um, ionic catalysts and solid acid catalysts. That – that would be a very useful contribution of the Board. Um, the second reason why that is such an important investigation is because it, um – it would give you a chance to look at, um, a phenomenon called the normalization of deviance. I know you know what that is.

But, um, from our – from the union's preliminary investigation, and we – we represent workers in that facility, um, it appears that, um, the way the company chose to keep hydrocarbon vapors out of the electrostatic precipitator, um, was not to blank off the line, which is the way it ought to be done and the way their own

procedure said it should be done but, instead, to use steam pressure. They had done that once before two years previously. They had gotten away with it. Um, they decided to do it that way again. Um, and this time, they did not get away with it. That's a classic example of normalization of deviance.

Um, finally, let me say, as somebody who is, um, to some degree from afar, but to some degree, close up, um, seen the kind of turmoil on the Board in the last five years, and it was, um – it was very personal because people on both sides of that, um – that controversy were – were good friends. Um, it is really encouraging to see, uh, the Board get back on track. Uh, the – the Board did terrific work, um, under Caroline **Merritt** and later on – and later on under – under John **Breslin**. Um, the last five years have been – have been troubled.

Uh, but from the way this meeting has gone, and the way that we've seen, um, all of the Board Members, um, handle their responsibilities, we are confident that it will return to, uh, the kind of terrific agency, uh, that it's been in the past. We…the Steel Workers' Union has more…more facilities that have been the subject of Board, um – of Board reports than any other union or – or absolutely any company, and probably more places, um, that are the kind of high-risk facilities that you're tasked to deal with. Um, so we absolutely depend on this agency, and it's wonderful to see it's, uh – it's moving again in the right direction. Thank you.

Chair Sutherland: Well, thank you for three things. 1) I do have the HF report, and it's a good one. I've already started going through that. So thank you for that. And we – we will. Um, 2) indirectly, thank you for your comments, because it's really a reflection of the staff. I mean, the Board's, um, you know, facilitation role of getting the material out, or doing advocacy, really pales into the – in comparison to the number of hours that it takes to actually give us a work product for us to edit and mark up and have comments on. Um, so I appreciate your feedback on Exxon, as well, because there's still probably a lot of work to do.

Um, I'm looking at Don like there's probably a lot of work to do. There is, in fact, a lot of work to do. Um, and third, I think, um, you know, I'm very optimistic. I was going to say some of this in my closing statement just about perceptions. But I think with four

out of five Board Members, we have a really great opportunity to actually get stuff done and be productive and pick up things that have been, uh, on ice, or collecting dust for quite some time.

And, assuming we get a budget, and we get certain operational things, it's a very exciting time to possibly be able to do many of the things that you just described, which is get back to the research, and the possible study, and get our investigations completed, and decide, as a group, where we're going to go. Five years is a – well, it sounds like a long time, but it's really not. Um, so I – I – I'm hopeful that we'll definitely, um, continue to slowly plod along. And please, anybody, you know, give us feedback on how we're doing it and how quickly or how much better we can do it because, I'm certainly always willing to learn.

Are there other comments from the audience? And Amy, do we have other email comments? Okay? So we don't have any more of those. So then, um, I guess, in closing, I guess I would just share a few, um – did you have a comment, Rick?

Member Engler: Well, I – I just wanted to say, as a – as a Board Member, certainly I'm not – I don't want to speak for the staff. I don't want to speak for the – to the atmosphere at the entire organization, which I think has to come directly from the staff. This was an extremely difficult, challenging, challenging, you know, is sort of a word you use when you don't really want to say what the situation was.

Chair Sutherland: Keep using the euphemisms, Rick.

Member Engler: Challenging. And I want to tell you from my –

Chair Sutherland: Challenging.

Member Engler: From my personal perspective, the organization has undergone, you know, very, very, uh, positive change in the time that, uh, uh, Kristen Kulinowski and Vanessa Sutherland have – since they have been, uh, appointed and come on Board. Uh, I came here to work on issues concerning preventing chemical incidents. It's a very serious task and – and mission. And we ought to be focused on that. I think we increasingly are. At the same time, I do think the fact that there's, uh, laughter that you refer to, but it's actually important before. It's not – it's not just about joking around. The

fact that the atmosphere internal to the agency is very, very, very different and positive that makes possible progress.

And I – and I thank you for that. And I look forward to, uh, finishing out my term of 4.5 years with you and getting a lot accomplished to make things safer. So I – I – I welcome, uh, the – the big changes that we've had in a – in a short time. We have many challenges. We have very difficult issues to address. But I'm confident that we can work together to do that. So again, thank you very much both of you.

Chair Sutherland: He gave us permission to crack jokes at the office.

Member Kulinowski: I just want to say not only am I here all week, but I'm here all year, and for five years. So thank you very much.

Chair Sutherland: Yeah. That's for you in the front row. So getting back to the program, um, I think we – we're going to, um, close at 5:00. But it looks like we may close a little bit early. So if you do have comments, we – you know, that you didn't want to raise in the public forum, um, please feel free to come up after. But one of the things that I think is important as – as Rick must have segued into my closing, uh, before we adjourn, is trying to figure out what relationships we had, have, um, and need in order to be successful. And so, for the last seven weeks (seven weeks is really a drop in the bucket) it's really an initial or introductory, um, process just to meet people and to listen to people.

I made a joke today, but I absolutely meant it, which is, you have to listen to everybody. You may not agree with their opinion. You may not ultimately like them or find anything in common. But it's the listening that makes you both better. Everybody doesn't have to be your friend, but everybody has an opinion that needs to be put into the soup.

And so, several of the first relationships that we've had are trying to improve and restore – restore the relationship that we, uh, had with the EPA Inspector General, um, and trying to meet with them in order to make sure that the way in which we operate, whether that's Sunshine Act compliance or fiscal compliance or **FISMA** is done in a way that is not only compliant, but that's fairly clear and sustainable and…and open. Um, we're also, as many people know,

working on a variety of, uh, personnel issues, um, which includes, kind of, are we staffed appropriately? We're…we're a small agency, and just in the limited time that I've been there, people have raised a lot of great questions.

Hey, have you ever thought about having this role? Or have you ever thought about having that person? Or you know, we only have one person performing this task, and if they win the lottery and leave, we are toast. Um, and those are very real challenges. Um, walking in, it didn't not take a rocket scientist – okay, that's a bad example. It didn't take long to realize that we had, you know, two or three single points of failure, um, during a time where we have a CR, etc. And by single points of failure for the IT geeks in the room, that means if that one person leaves, they take the sole operational capability with them.

And nobody disputed that with me. Um, as a matter of fact, people made a B line to me to say did you know we really need this? Um, I do know that. And I'm working diligently to get people their back up or their, you know – their plus one or their, you know, sort of successor, uh, person so that we have time to really train those people and integrate them into the CSB so that when, and if, we have more work, or somebody does decide to take an opportunity, we're not handicapped. Um, I'd still want to do a preliminary organizational assessment to help really refine how to prioritize some of those hires, um, and where they need to be, in order for us to grow and meet the mission.

The Board is discussing opportunities, as I mentioned, to – uh, to conduct certain studies. And, so, I appreciate very much, um, Mr. Wright, your comments about HF. And I think we are looking at some of the consistent findings that we've made in investigations to decide, are there untapped areas, or unmet needs, that we could, uh, address in the study, and not wait for an incident? And that could be any, um – that could be anything from, you know, encroachment issues, facilities that start out in a rural place, and the town ends up 10 feet away from a toxic facility. Or it could be, um, again, revisiting some of the work that we've done in the past and refreshing it or repackaging it.

Um, and we'll have to do that, obviously, allowable within an $11 million budget, which is currently roughly $10.7 million or so. So

it's my hope, and I – I think it's probably the Board's hope, too, to make sure that we continue to focus on the investigations in the short term, so that, if there is an unfortunate incident, we are prepared to be able to deploy and not then have it affect – adversely affect six or seven other cases in the queue. And I think one of the things in meeting with the staff that I would like to see is for the CSB to start to become, um, reinvigorated to be a forum, a place to go for thought leadership.

We went to the International Regulatory Forum yesterday where they were talking about a lot of very broad issues, very interesting conversation, lots of, uh, hypotheticals, international participants. And it was really, um, stimulating to see people just talking about their different safety challenges, and what's the right model, and how do you blend some of the models, and, um, what are organizational change agents. And it was fascinating. And I would really love for us to be able to be able to host some of that, based on the incident data, uh, information, that we have, and based on some of the passions and interests that our…our staff has.

So that would be really helpful. And I think, in closing, I really want to thank the staff not just for their dedication to the work of the mission, but for helping the newbies get on board. Um, it's always hard to put the wheels on a car while it's driving. And so you've been very patient with us as we continue to revisit topics and say we need yet another briefing on things. I know you've been briefing about for two or three years. Um, and I also want to echo what, um, Rick (I have to be formal), Member Engler said, uh, about us being able to share thoughts. The Q meeting has been a really…that's the weekly Board meeting where we just talk about status and…and possible priorities.

And their contributions, not just today, but at those meetings, coming in with ideas and, you know, stakeholder feedback, has been really interesting. And I think it has helped us refocus that we have a common bond, which is chemical safety. Um, all of the other operational issues that I mentioned are…are really important. And Counsel and the Board and the staff will continue to work on things that will outlive us. I think part of making sure that organizations run well is when people know what their roles are, and what their responsibilities are, and have some kind of structure and coherent common language.

Um, so hopefully, we will feel, at some point, that that's there, and so that those operational issues can just run more on – kind of on a mechanical basis, uh, and not be a case of first impression every time. So, thank you for everyone who attended both webcasts. And, um, Manny, I'll get to you in a second, to see if you have any closing remarks as well, um, by phone. We really appreciated your comments, particularly on the ongoing investigations. Our next public business meeting will be held, um, in December of 2015, in addition to the one that you know of, for our regulations in January, which is January 21, 2016.

And the reason for that is, while I absolutely agree with, um, Member Engler that there were regulatory improvements made, four meetings a year for an agency that has significant investigations, a lot of governance, challenges, a lot of operational questions, and significant safety, um, work to do and influence, I'm not sure that four is really enough. So we'll be hosting one in December, um, and then again in January. And then we have a regularly scheduled one in April as well. All of the details about location, agenda, and, uh, scope of those business meetings will be available on the website.

And did you have a question? No, okay. Um, will be available on our website at a later date. Member Ehrlich, did you have any final comments before we adjourn the meeting?

Member Ehrlich: Yeah, I do have a – a couple of comments. Thank you very much. First of all, I'd like to, um, extend from the group that I've been talking to yesterday, it was **[inaudible] [02:43:55]** Pennsylvania. Today it was **[inaudible]** in Houston. Uh, they have nothing but positive comments to feed back to the agency, uh, particularly with the interaction from the Board. It's a privilege for me to work on the Board. I look forward to the relationship that we have in the next four plus years…well, almost five for most, but almost four for me. And the staff does a remarkable job.

Uh, Amy and Shauna, um, and Hillary, I can't thank you enough for, uh, keeping me out of trouble and getting me ready and getting me prepared, and doing what you do for the agency because, without you, we'd be lost. So having said that, um, I sincerely

appreciate, uh, being on the Board. And, um, I look forward to the next four plus years. Thank you.

Chair Sutherland: Well, thank you, uh, Member Ehrlich. And if there are no other – thank you all for your attendance, and the meeting will be adjourned.

[End of Audio]

Duration: 165 minutes