UNITED STATES OF AMERICA
CHEMICAL SAFETY AND
HAZARD INVESTIGATION BOARD

CHEVRON RICHMOND REFINERY FIRE
RICHMOND, CA
AUGUST 6, 2012

INTERIM PUBLIC MEETING
FRIDAY
APRIL 19th, 2013
6:30 P.M.

CSHIB MEMBERS:

RAFAEL MOURE-ERASO, Chairman

MARK GRIFFON
BETH J. ROSENBERG
DANIEL HOROWITZ, Managing Director
RICHARD C. LOEB, General Counsel

INVESTIGATIVE TEAM:

DAN TILLEMA, Team Lead
STEVE CUTCHEN
ROGER EVANS
LAUREN GRIM
SAM McFADDEN, Anamet, Inc.
PANEL MEMBERS:

ELLEN WIDESS, Cal/OSHA
PAUL AMYOTTE, Dalhousie University
RANDY SAWYER, Contra Costa County
TUPPER HULL, Western States Petroleum Association
MIKE SMITH, USW Local 5
RON ESPINOZA, USW International
GREG KARRAS, Communities for a Better Environment
MIKE WILSON, U.C. Berkeley

ELECTED OFFICIALS PRESENT:

JOHN GIOIA, Member, Contra Costa Board of Supervisors
GAYLE McLAUGHLIN, Mayor, Richmond, CA
GEORGE MILLER, Congressman, California's Eleventh District
MARK CHEKAL-BAIN, on behalf of NANCY SKINNER, California State Assembly Member, Fifteenth State Assembly District

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Before we start, I would like to note that we have translation service tonight. We have Spanish and Laotian translators in the back. There are infrared earpieces that you can go in the back and wear it if you need it. You can get the headsets over at the left of the stage.

That's left of the stage.

So, the meeting will now come to order. Thank you. Good evening, everyone.

Welcome to this public meeting of the U.S. Chemical Safety Board. I am Rafael Moure-Eraso, the chairperson of the Chemical Safety Board, and with me at the table are my fellow board members, Mr. Mark Griffon and Beth Rosenberg. We are also joined at the head table here by Richard Loeb, who is the general counsel of the Chemical Safety Board.

Before we proceed further, please locate the meeting room exits that you will
use in case of an emergency. You can see they are marked there in green lights on the sides, if you need to leave the building.

We are especially honored today to be able to have our meeting in this historic facility. And we also are especially honored by the presence this evening of Congressman George Miller who is here with us.

(Applause.)

CHAIRPERSON MOURE-ERASO:

Congressman George Miller is one of our best boosters in Washington, and a good friend of the Chemical Safety Board. Also here with us is John Gioia, who is the chairman of the Contra Costa Board of Supervisors. Could you please stand?

(Applause.)

CHAIRPERSON MOURE-ERASO: And also with us is Gayle McLaughlin, the mayor of Richmond.

(Applause.)

CHAIRPERSON MOURE-ERASO: We'd
also like to welcome any members of the California Legislature that might be with us today. At the entrance, as you can see, is a copy of the agenda of this meeting, so you can follow the proceedings. Everybody should have one now.

And also there are copies of the report. We are calling this an interim report, but as you can see it's almost 100 pages, and it's a very complete set of findings and recommendations.

We are here this evening so that our investigation team may present a draft report on this investigation, on the investigation findings, along with a series of urgent safety recommendations regarding the massive vapor release and fire which occurred last August at the Chevron refinery here in Richmond.

Toward the end of the meeting, the Board will vote on whether to approve this final report and the recommendations, which
make the report official and will appear on
the website as a public document.

As I think everyone knows from our
previous reports and press conferences and
releases here, the vapor release was caused by
a highly corroded piping that gave way. You
will hear that Chevron failed to replace
critical sections of piping of the crude oil
unit over a ten year period, even though the
company was aware of the overall hazard of
sulfidation corrosion and its risk of
catastrophic failure.

But make no mistake, the ultimate
issue here is not corrosion, but how to make
effective corporate decisions.

(Applause.)

CHAIRPERSON MOURE-ERASO:
Companies that run refineries like the one in
Richmond must take every measure possible,
including the use of inherently safer
materials and processes, to run the plants in
a safe manner. The lives of workers are too
important to do otherwise. The lives and well-being of residents in neighboring communities are too important to do otherwise.

(Applause.)

CHAIRPERSON MOURE-ERASO: And regulators need effective tools and resources to encourage companies to make the right choices. Even with some resource limitation, California OSHA has the only dedicated process safety management unit of any regulatory agency in the nation. That is a great thing. Still, California OSHA and other regulatory agencies like it, including Federal OSHA, need to be given substantially more resources so that they can do more inspections and ensure the public's safety.

(Applause.)

CHAIRPERSON MOURE-ERASO: Finally, oil companies need to operate in a more transparent way. Refineries --

(Applause.)

CHAIRPERSON MOURE-ERASO:
Refineries need to share information about their hazards. They need to listen to communities and --

(Applause.)

CHAIRPERSON MOURE-ERASO: -- and let the public know what they are doing to make the facility as safe as humanly possible.

(Applause.)

CHAIRPERSON MOURE-ERASO: Life is too precious to do otherwise. We need a change in how refineries do business, in California and nationwide. Here today in Contra Costa we have a unique opportunity to effect meaningful change by learning from this major accident.

In this community, we see a constellation of engaged institutions that represent all stakeholders in the region, especially the 15,000 community members that sought medical attention following the fire. The stakeholders are demanding change.

These groups that have worked and
collaborated with us -- and this is not a complete list -- are the Labor Occupational Health Program with the University of California, the Community for Better Environment, the CBE, the Blue-Green Alliance, the United Steel Workers Local 5, the United Steel Workers International, California OSHA, California EPA, the City of Richmond, especially, Contra Costa County, and the California Legislature.

Also, we have been in contact and have spent substantial time, quality time, with the California Refinery Task Force. And very importantly, I hope that our recommendations, that are very specific, will be considered by the Governor of California's Refinery Task Force.

All these institutions have the energy and the will to implement our recommendations. Thank you very much.

(Applause.)

CHAIRPERSON MOURE-ERASO: I would
Now I like to ask if other Board members have opening remarks. I am calling first on Doctor Beth Rosenberg.

MEMBER ROSENBERG: Thank you.

Thank you, Chairperson.

Good evening. It's heartening to see so many of you concerned enough, angry enough, to give up your Friday night to think about refinery safety. I'm Beth Rosenberg.

I've been at the CSB for four months, and I'm learning that everyone has his own view of what's important, of what a root cause is. You'll hear many views tonight, and I'll add mine to the mix.

Our investigators found that, over a 10 year period, Chevron technical experts and workers made at least six recommendations to increase inspection or replace the piping that eventually leaked.

I would like to know what was going on in Chevron's management. What flawed decisionmaking matrices did they use? What
financial incentives did they have that
allowed them to dismiss the repeated warnings
of their employees and gamble with the safety
of their workforce and the public?

I realize the subject of corporate
decisionmaking is on the agenda for the final
report and will not be discussed tonight, but
I take this incident at Chevron as a
cautionary tale about what happens when senior
management ignores the concerns and advice of
workers.

This problem is not unique to
Chevron. In my 30 years as an occupational
health professional, I have found it to be
rampant across many sectors. Whether your
workplace is a refinery or a bakery,
management ignoring the advice of workers is
a serious mistake. Not only is it bad for
management, because good information is not
put to good use, but as we see here it is
dangerous and can have terrible and completely
avoidable consequences.
Why so many organizations persist in this harmful, ultimately self-destructive behavior is important to figure out, both for the health of the organization or the business, and mainly the public health.

Thank you.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you, Doctor Rosenberg. Now I would like to call upon my colleague, the Board member, Mark Griffon. Mark?

MEMBER GRIFFON: Thank you, Chairperson.

I think this incident brings into focus an issue of great concern to me: the issue of an aging refinery sector. This Chevron refinery has been in operation for over 100 years. The crude unit in question in this incident was constructed in 1976. It seems to me that an aging refinery is like an old house: it needs a lot of constant maintenance.
Recent research conducted by the United Kingdom Health and Safety Executive shows that 50 percent of major hazard loss of containment events from 1980 through 2006 arising from technical plant failures were primarily due to aging plant mechanisms, such as erosion, corrosion and fatigue. These are sobering statistics, given the age of the refineries in operation around the country. Couple this with what appears to me to be a culture of running to failure and the common practice of running maintenance in the refinery sector, and it seems to me you have a recipe for a catastrophe.

It is critical to note that Chevron is well aware of these issues of aging plants, and yet decisions were made that led to the failure on August 6th. Our investigation found that in the 10 years prior to the incident a small number of personnel with knowledge and understanding of sulfidation corrosion made at least six
recommendations to increase inspections or
upgrade metallurgy.

So the question is, why did these
recommendations for the most part fall on deaf
ears? Who decided not to implement the
recommendations, or delay the implementation
of the recommendations? And most importantly,
why?

This, I believe, is critical in
understanding why this incident occurred and
may have some valuable insights into why we
continue to see so many process safety
problems in the refinery sector nationwide.
I look forward to our team's more extensive
examination of these issues in our final
report.

Finally, and perhaps the most
important issue in this case, is the
connection of process safety decisions and the
potential risk to the community. Fifteen
thousand people went to the hospital after
this incident. These people have a right to
know what they were exposed to and what, if any, adverse health effects can be expected.

(Applause.)

MEMBER GRIFFON: In our final report, we need to examine the systems in place to answer these questions for the community, and to keep the community safe.

Thank you.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you, Mr. Griffon.

Our next activity will be the presentation of the report, and I am going to start with the introduction of the Chemical Safety Board Investigation Team.

The person that spent a substantial amount of time with the team putting the investigation together is Donald Holstrom. He was planning to be here with us, however probably a lot of you have read about the explosion and terrible accident that took place in West, Texas, in the state of Texas,
and he had to deploy with 10 investigators to
that place yesterday morning, and at this
moment he is there taking the first steps to
initiate our investigation in West, Texas. He
is not with us today; he had to deploy.

Additional members of the team are
Dan Tillema, who is the team leader, sitting
here at the table on my right, and he is --

(Applause.)

CHAIRPERSON MOURE-ERASO: Dan
Tillema is very well known in these parts,
yes. Steve Cutchen, Roger Evans, Lauren Grim,
and Sam McFadden from the Anamet Company that
has been our consultant. He's also here.

(Applause.)

CHAIRPERSON MOURE-ERASO: Missing
from the table are people that also were part
of the team, but they cannot be here with us
because they are deployed in West, Texas, and
they are Mark Wingard, Amanda Johnson, and
Kelly Wilson.

Now I would like to turn over the
microphone to Mr. Dan Tillemann, the
investigator in charge of the Chevron
investigation. Dan?

(Applause.)

INVESTIGATOR TILLEMA: Thank you, Chairman Moure. I would also like to note that the investigation team has had great cooperation from other groups and agencies throughout our investigation, including Chevron and their employees, United Steel Workers, Cal OSHA, especially Patrick Bell, Clyde Trombetis and his PSM team (phonetic), Contra Costa County, the City of Richmond, Mary Westling (phonetic) and her team with the EPA, and the Bay Area Air Quality Management District.

Last summer on August 6th the Chevron refinery right here in Richmond, California experienced a catastrophic pipe rupture in their crude unit. As a result of this incident, 19 employees lives were endangered and 15,000 members of this
community sought medical treatment. We found that the immediate cause of this incident was sulfidation corrosion, a common damage mechanism in refineries.

As a result of this incident, the Chevron crude unit remains out of commission over eight months later. We have written an interim report describing this accident, and tonight we are proposing recommendations to Chevron, the City of Richmond, Contra Costa County, the State of California and the U.S. Environmental Protection Agency. These recommendations address the need for inherently safer design, rigorous and documented damage mechanism hazard reviews and thorough analysis process safeguards.

We will begin our presentation this evening by showing an animation of the August 6th Chevron incident. We will then present our key investigation findings, followed by our proposed recommendations. Elected officials will then give statements,
and the Board will have an opportunity to ask the investigation team questions. We will then hear from panel experts, and then the public. The Board will vote on adopting the interim report and proposed recommendations.

I will now show the video depicting the August 6th Chevron incident.

(Whereupon, a video was displayed.)

RECORDING: The Chevron Richmond Refinery lies approximately 10 miles northeast of San Francisco in California's Contra Costa County. The 2,900 acre facility was initially established in 1902 and primarily makes transportation fuels such as gasoline and diesel, as well as lube oils. The refinery can process up to 250,000 barrels of crude oil per day.

The first step of the refining process takes place in the crude unit, where crude oil is cleaned and heated before entering the distillation tower. Inside the
1 tower, the crude oil is boiled. The vapor
2 then condenses into various liquid hydrocarbon
3 fractions, or streams, including jet fuel,
4 diesel, and gas oil. The different streams
5 exit the distillation tower through separate
6 pipes, or sidecuts, that lead to other
7 sections of the refinery.

8 On August 6th, 2012, the crude
9 unit was operating normally. Around 3:50 that
10 afternoon, an operator was performing a
11 routine check when he noticed a small puddle
12 on the ground near the distillation tower.
13 The liquid appeared to be dripping from an 8
14 inch insulated pipe 14 feet overhead. The
15 leaking pipe was a section of the tower's
16 number four sidecut line, which operated at a
17 temperature of 640 degrees Fahrenheit and
18 contained light gas oil, a combustible liquid
19 similar to diesel fuel.
20
21 Chevron inspectors knew that, over
22 the years, the walls of the number four
23 sidecut had thinned due to corrosion, but they
did not realize how close this particular segment was to failure. There was no shutoff valve between the pipe and the distillation tower, and no way to isolate the leak.

The head operator was called to the scene. Although he believed the situation was serious, he did not believe the small leak warranted immediately shutting down the unit and stopping production. Following Chevron's standard practice for responding to hazardous leaks, refinery firefighters were sent to the scene.

A number of managers, engineers and technicians gathered there informally to assess the problem. The group discussed a recommendation from an operator to shut down the unit, but they decided to first try to pinpoint the leak by removing insulation from the pipe while the crude unit was still running. The hoped they could stop the leak with a temporary metal fitting known as a clamp.
A Chevron firefighter tried using a pike pole to hook and pull away the insulation, but this poking action was deemed too dangerous because it was moving the pipe. The CSB later found that the tip of the pike likely caused a small puncture in the already thinned pipe.

As the unit continued to operate, workers assembled scaffolding directly beneath the leaking pipe. Two firefighters then used a hook to remove the insulation from the pipe. As they were working, hydrocarbon vapor began to flow out from underneath the insulation. The two firefighters backed away from the growing vapor cloud. As the hot vapor mixed with air, it ignited.

That fire was quickly put out, and the two firefighters immediately climbed down off the scaffolding, but the exact location of the leak was still obscured by the remaining insulation and firefighting water, so the Chevron firefighters attempted to strip the
insulation off the pipe with high pressure water.

But the leak suddenly worsened, and hot hydrocarbon liquid started to spray out of the pipe. A decision was finally made to begin an emergency shutdown of the crude unit, but it was too late. Suddenly the pipe ripped open. A vapor cloud formed and rapidly expanded as the large inventory of hydrocarbons in the distillation tower started to vent through the ruptured pipe.

The vapor cloud immediately spread over hundreds of feet, engulfing all 19 people who had gathered nearby. The firefighters and operators struggled to escape through the dense hydrocarbon cloud. Unable to see, they had to feel their way out, some on their hands and knees.

At approximately 6:30 p.m., two minutes after the huge vapor cloud formed, the hydrocarbons ignited. One firefighter was trapped inside a fire engine when it was
suddenly engulfed in flames. He radioed for help.

"Mayday, mayday, mayday. This is 460."

But when he received no response, he assumed everyone else was dead. To escape the inferno, he fled through what witnesses described as a wall of fire. Fortunately, all the workers would eventually flee to safety, and there were no fatalities.

The towering white vapor cloud could be seen as far away as San Francisco on the unusually clear August day. After the ignition, a dense plume of black smoke formed and drifted away from the refinery. The fire continued burning for hours. Over the succeeding days, more than 15,000 people sought medical treatment at nearby hospitals for breathing problems and other symptoms.

During its investigation, the CSB determined that the carbon steel pipe installed in 1976 had thinned to the point of
failure from an effect known as sulfidation corrosion. Carbon steel piping is particularly susceptible to this type of corrosion, which occurs over time when the steel is exposed to sulfur-containing hydrocarbons at high temperatures. Steel piping that happens to be low in the element silicon corrodes especially quickly.

The CSB learned that sulfidation corrosion had caused a major failure at Chevron's refinery in Salt Lake City, Utah in 2002. Chevron then performed an enhanced inspection of the number four sidecut pipe at the Richmond refinery. It revealed accelerated thinning in the piping section that would ultimately fail in 2012. Replacement was recommended, but this did not occur, and the section of piping was never inspected again.

In 2009, Chevron experts recommended that every segment of high risk carbon steel piping be inspected for
corrosion, however this was not done. During a maintenance turnaround of the crude unit in 2011, Chevron inspectors examined some, but not all, locations along the number four sidecut, and found significant thinning. Some sections were replaced, but managers decided that the line was thick enough to stay in service and that an overall replacement could wait up to five more years.

According to CSB investigators, a key lesson is that each and every segment of the piping should have been inspected. Most importantly, the pipe should have been replaced much earlier with an inherently safer corrosion-resistant alloy. The CSB also concluded that, had the crude unit been shut down when the leak was first noticed, the massive fire likely would not have occurred, the 19 workers would never have been endangered, and the community would have been protected.

For more information on the CSB

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202-234-4433
Chevron investigation, please visit CSB.gov.

"Ground monitor, we're going to supply from this hydrant. We've got to supply that ground monitor with our five-inch."

"I see it. Actually, you may want to add" --

"Back in. We're going to back in."

"All right. We'll jump out."

(Whereupon, the video ended.)

(Applause.)

INVESTIGATOR TILLEMA: In our presentation this evening, Lauren Grim will detail the technical causes of the incident, describe opportunities to replace the four sidecut pipe, and will discuss the importance of process hazard analyses and the thorough evaluation of safeguards.

Roger Evans will then describe inherently safer systems and ways to improve the California regulatory system.

And finally, Steve Cutchen will
present our proposed recommendations to the
Board.

I will now turn the presentation
over to Investigator Lauren Grim.

INVESTIGATOR GRIM: Thank you, Dan. As shown in the video that you have just
seen, the four sidecut pipe wall became
extremely thin due to sulfidation corrosion
and ultimately ruptured. Sulfidation
corrosion rates are fastest in carbon steel,
which is a plain, basic steel. This was the
material of construction of the four sidecut
piping that failed at the Chevron refinery
here in Richmond. Other metallurgies, like
high-chromium steels, thin at a much slower
rate.

These metallurgies are referred to
as inherently safer metallurgies, because they
reduce the risk presented by sulfidation
corrosion. This animation shown here on this
slide shows a pipe cross section demonstrating
how the four sidecut line would corrode
depending on the line's material of construction. We can see how low-silicon carbon steel and regular carbon steel thin over a 15 year time period when compared to inherently safer steels 9-Chrome and stainless steel.

Inherently safer systems experts Paul Amyotte, who is a member of our panel this evening, and Trevor Kletz published an augmented version of the well known risk reduction tool called A Hierarchy of Controls by including concepts of inherently safer systems. For example, replacing metallurgy with an upgraded inherently safer material of construction is a high ranking technique to implement inherently safer design.

Piping circuits, such as the Chevron refinery four sidecut piping circuit, are comprised of many piping components, including elbows, straight piping, tees and fittings. In this example shown on the slide, the straight-run piping components are in
yellow and the tees and fittings are in gray. Components in piping circuits such as this one are usually connected by welds, which are shown here as red lines on this slide.

To monitor corrosion rates, companies are required by regulation to measure piping thickness at periodic locations throughout piping circuits. These measurement locations are typically placed on elbows and fittings. We have found, however, that this presents a problem when measuring sulfidation corrosion in carbon steel piping circuits. Carbon steel elbows and fittings generally contain high percentages of silicon. If there are low-silicon piping components in the circuit, like the straight-run red piping components seen in this slide, they may thin significantly faster than the measured high-silicon fittings, possibly leading to rupture. This is what happened on August 6th here in Richmond.

To identify the low-silicon
components, such as the ones shown in red here, 100 percent component inspection, by either thickness testing or chemical laboratory testing, must be performed.

Here we see a photo that was taken in a laboratory of the pipe component that failed at the Chevron refinery. Directly upstream of the component is an elbow. This elbow contained a high percentage of silicon, and this was also a location where inspectors regularly measured the four sidecut pipe thickness.

The component that failed contained an extremely low percentage of silicon, and it was not regularly thickness tested. The high corrosion rates that it experienced were unknown until it ultimately failed on August 6th.

We'll now take a closer look at the failed piping component. The yellow rectangle that you can see in this photo is a sample that was cut in our metallurgical
laboratory. It consists of a portion of the elbow, the failed component, and the weld that connects the two.

When viewing the cross section of this sample, we can see the extreme variation in thinning that occurred in the Chevron four sidecut piping circuit. The ruptured component was approximately 90 percent thinner than the adjacent elbow, and this component also contained almost 94 percent less silicon than the elbow.

We do have the cross section of the sample here with us this evening on a posterboard.

The August 6th Chevron incident was preventable. The refining industry has been aware of risks associated with low-silicon carbon steel since as early as 1974. In addition, Chevron employees are highly qualified individuals with considerable sulfidation corrosion expertise. These employees made numerous recommendations to
either inspect or upgrade the four sidecut piping circuit.

The blue arrows you see appearing now on the screen were recommendations to increase inspection of the four sidecut line, and the red arrows are recommendations to replace the four sidecut with an upgraded, inherently safer material of construction. None of these recommendations were fully implemented over the 10 years leading to this incident.

The component that ultimately failed due to low silicon was not inspected in the past 10 years, and the piping was never replaced. While numerous, these recommendations were not audited or enforced by the regulator, in part because they were not included in Chevron's process hazard analysis.

A process hazard analysis, or a PHA, is an element of OSHA's process safety management program. This is a regulation that
covers chemical processes containing a threshold quantity of dangerous chemicals, such as those at the Chevron refinery. PHAs have been required since 1992, 20 years before the August 6th Chevron incident. The PHAs performed by the Chevron Richmond refinery are enforceable by California's OSHA regulator, Cal OSHA, and by the City of Richmond, who designates their inspection authority to Contra Costa County.

PHAs are performed by a team of experts who are very familiar with the process, and they are also required to be updated every five years. Using established methodologies, PHAs systematically assess a chemical process for potential hazards, and they identify safeguards to protect against those hazards. Possible hazards can come from considering process upsets, such as changes in flow, changes in temperature and changes in pressure.

During Chevron's PHAs, the PHA
team is tasked to identify possible causes and consequences of hazards, and to identify existing and needed safeguards to protect against those hazards. If the hazard is not sufficiently protected against, the team then makes recommendations for improvements.

In the most recent Chevron Richmond refinery crude unit PHA, one of the hazards analyzed was a leak or rupture of the four sidecut line. However, none of the employees on the PHA team had knowledge of sulfidation corrosion risks in the four sidecut line. Also, no individuals with specific four sidecut corrosion expertise were consulted during this process, and as a result this damage mechanism was not identified as a risk in the four sidecut piping circuit. No recommendations were made to improve the four sidecut safeguards during this process by increasing the metallurgy to an inherently safer material of construction.

A damage mechanism hazard review
could have assisted the PHA team in understanding sulfidation corrosion risks in the four sidecut piping circuit. Failure mechanisms, such as corrosion and cracking, that can weaken piping and equipment are called damage mechanisms. Damage mechanism hazard reviews ensure that these potential hazards are properly identified and analyzed. They also ensure that safeguards are used to control or eliminate this hazard.

In the United Kingdom, this type of review is used in the offshore industry. The Health and Safety Executive, and Chevron as well, participated in the development of the guidance document that establishes this practice. However, in the United States, damage mechanism hazard reviews are not required or recommended by Federal OSHA or Cal OSHA.

Had a damage mechanism hazard review been required as part of the PHA cycle, the PHA team could have used the review's
findings when identifying hazards and issuing safeguard recommendations. These recommendations could have included improving the metallurgy of the four sidecut piping circuit and upgrading it to an inherently safer material of construction.

Reporting findings from damage mechanism hazard reviews to California regulatory bodies will allow regulators to target their inspections and ensure effectiveness of these process safety programs. The implementation of damage mechanism hazard reviews can be used to create leading and lagging indicators for the regulator. Leading indicators are used to predict future performance and are a very preventative tool, and on the other hand lagging indicators are facts about past events that have occurred.

Once hazards are identified via damage mechanism hazard reviews and the PHA process, it is necessary to ensure that
safeguards exist and that they will
effectively control the hazards identified.
The identification of safeguards is very
important. It's necessary to determine
whether the safeguards will work, and it's
also necessary to determine if they will
reduce the risk of the hazard enough to
provide adequate protection.

There are methodologies for
consistently and objectively making these
determinations. These methods can include
industry recognized tools, like layers of
protection analysis, or LOPA. Chevron does
not employ a prescribed methodology for
determining whether a safeguard will be
effective. Instead, Chevron relies upon the
judgment of the people on the PHA team, who
base their conclusions upon their experiences,
their beliefs, and their areas of expertise.

In its 2009 crude unit PHA,
Chevron simply cited nonspecific personal
judgment-based safeguards. These included,
and I quote, "using metallurgy to minimize corrosion, having effective maintenance and inspection programs, and providing pipe wall corrosion allowances," end quote.

However, the effectiveness of these safeguards was not evaluated or documented. Instead, Chevron merely listed the safeguards in the PHA. Had a rigorous analysis been performed to determine if metallurgy actually was in place to minimize corrosion, it could have been identified that the four sidecut piping needed to be upgraded. They could have then made a recommendation to replace the piping with an inherently safer material of construction.

Such a recommendation made during the PHA process can then be enforced by Cal OSHA and Contra Costa County. The reason for not implementing the recommendation can also then be questioned by the regulator.

That concludes the technical portion of the presentation, and I will now
turn it over to Investigator Roger Evans, who will discuss inherently safer systems.

(Applause.)

INVESTIGATOR EVANS: Thank you, Lauren. Regulations of Contra Costa County and the City of Richmond require facilities to look for opportunities to implement inherently safer systems in both PHAs and during the construction of new processes. However, the City and County regulations are currently permissively worded. The regulations only require that analysis be considered by using language that the company, quote, "shall consider the use of inherently safer systems," end quote.

Contra Costa County provides a checklist, as shown here, to companies to provide the company to look for opportunities to implement inherently safer systems. One of the prompts asks the company to analyze if they are using corrosion-resistant material. Chevron's response stated, and I quote,
"vessel specifications and piping classifications include a conservative wall thickness and an appropriate corrosion allowance for each surface," end quote.

As part of their inherently safer systems review, Chevron did not attempt to actually look for opportunities to use more corrosion-resistant materials, despite the numerous recommendations made over the years to replace the four sidecut piping with an upgraded material. The regulators indicated to Chevron that it complied with the regulation, even though Chevron made no rigorous attempt to implement inherently safer systems.

Contra Costa County and the City of Richmond regulations are a positive step forward in improving process safety to include concepts of inherently safer systems. However, while having a good intention, these inherently safer system requirements were performed as a check-the-box exercise by
Contra Costa County and the City of Richmond require covered facilities to look for potential opportunities to implement inherently safer systems in the PHAs and in new constructions. In addition to PHAs and new construction, companies have many additional opportunities to implement inherently safer design. Companies currently analyze unit designs, and could implement inherently safer systems, during management change, process unit rebuilds, major repairs, and when developing corrective actions from investigation recommendations.

Also, as we have discussed, there were a number of opportunities in the 10 years leading up to the incident to implement inherently safer systems. Had more rigorous and encompassing requirements to find opportunities to implement inherently safer systems been required by the City of Richmond, Contra Costa County, and the State of
California, this incident could have been prevented.

We've talked about hazard identification, safeguards, and inherently safer systems. All of these help to reduce risk. How can a company determine the amount of safeguards required to control hazards to minimize risk? Hazard tools, such as LOPA, can be used to help an organization decide if a scenario or a hazard has been minimized. The goal should be that the risk is reduced to as low as reasonably practicable, or ALARP. ALARP is a widely accepted risk reduction goal. Risk reduction efforts are continued to the practical limit.

Using LOPA or other accepted hazard analysis tools to achieve risks that are as low as reasonably practicable can confirm to the company that their safeguards are adequate, inherently safer design is optimally in place, and their process is as low risk as practicable.
If Chevron had used LOPA or similar methods to reduce risks to as low as reasonably practicable, Chevron could have prevented the August 6th incident.

To ensure all these hazard identification and risk reduction tools are used effectively, the patchwork of regulatory systems in California need to work together. A multi-agency approach is needed by California. By working together, the agencies will improve the public accountability and process safety performance of California process facilities. The sharing of information and joint inspections will increase the cumulative knowledge of these bodies and can drive down the occurrence of major accidents.

These groups will be able to target inspections and coordinate operations, working effectively and efficiently. Not only is it important that regulators work together, there are other stakeholders that have an
interest in process safety and the impact on
the community. There must be transparency so
that process industries are accountable to all
stakeholders.

There is currently a lack of
transparency of refineries to their regulators
and the public. Transparency, or the public
disclosure of safety information, can be
successful in driving process safety
improvement. The EPA Emergency Preparedness
and Prevention Office notes that, quote,
"information about hazards in a community will
allow local emergency officials and the public
to work with industry to prevent accidents,"
end quote.

In addition, process safety can be
further improved by fully involving the
experts, the workforce of the company, in risk
assessments, inspections, audits and
performance reviews. This workforce
involvement leads to empowerment, management
responsiveness, and process safety performance
This graph illustrates the type of data that improved transparency could provide stakeholders. In the decades preceding the incident, the sulfur content in this four sidecut line increased by over 80 percent. This major increase in sulfur and other process changes sped up the corrosion rate of the four sidecut piping. With increased transparency, this type of information would be provided to regulators, to community officials, and interest groups.

In summary, many factors contributed to the August 6th Chevron incident. The immediate cause of this incident was sulfidation corrosion. Also, Chevron failed to shut down the unit when the leak was initially found.

But why was this extremely thin pipe there to fail? We have identified both Chevron organizational and California regulatory causal factors. Despite many
recommendations from Chevron employees to
inspect and to replace the four sidecut line,
these recommendations were never implemented.
Also, in their PHA process, a regulated
analysis, sulfidation corrosion was never
identified as a hazard in the four sidecut
line.

California regulatory causal
factors also contributed to this incident.
We'd like to emphasize that Contra Costa
County is one of a very small number of
regulatory systems that has inherently safer
systems requirements. Also, Cal OSHA is one
of the few states that has a PSM group.

However, in our investigation, we
found that despite the advances, the existing
regulations do not require damage mechanism
hazard reviews or the evaluation of safeguard
effectiveness. Additionally, current
inherently safer system requirements in Contra
Costa County and the City of Richmond are
overly permissive and do not require rigorous
analysis.

There are also many opportunities to implement inherently safer systems that are not currently required. Regulatory enforcement can be improved by California agencies working together and sharing information. Finally, enhanced transparency will hold facilities accountable to the regulators, the workforce, and the public.

The CSB investigation team is working on a final report that we're planning to release later this year. We are analyzing key issues, including California regulatory effectiveness, Chevron's organizational safety, Chevron's mechanical integrity system, including the use of clamps on hydrocarbon piping, and Chevron's emergency planning and notification and response systems. We will also be investigating Chevron's use of process safety indicators, which are an important part of implementing a strong process safety program.
This concludes our findings this evening. I will now turn the presentation over to Investigator Steve Cutchen, who will present our proposed recommendations.

(Applause.)

INVESTIGATOR CUTCHEN: Thank you, Roger.

Based on our analysis and findings, the investigation team proposes to the Board the following recommendations. These first recommendations will improve the analysis of damage mechanisms and process safeguards in the required process hazard analysis cycle.

Chevron did not perform a damage mechanism hazard review with its most recent crude unit PHA. The PHA team missed a key opportunity to identify corrosion hazards in the four sidecut line. The conduct of damage mechanism hazards reviews will ensure the identification of hazardous corrosion and cracking present in refinery processes so that
preventative inherently safer systems may be
implemented.

To Chevron USA, this is an urgent recommendation to Chevron, so this important process must be immediately initiated at all Chevron U.S. refineries. Chevron has six months to implement this recommendation. This recommendation is also to the California State Legislature and the Governor of California.

Require all refineries to engage a diverse team of qualified personnel to perform a documented damage mechanism hazard review. This review shall be an integral part of the process hazard analysis cycle, and shall be conducted on all PSM-covered process piping circuits and process equipment.

The damage mechanism hazard review shall identify potential damage mechanisms and the consequences of failure, and shall ensure that safeguards are in place to control hazards presented by those damage mechanism. Analyze and incorporate into this review
applicable industry best practices and inherently safer systems to the greatest extent feasible.

To the Mayor and City Council,

City of Richmond, California. To the Board of Supervisors, Contra Costa County, California. And to the California State Legislature and the Governor of California: Monitor and confirm the effective implementation of the damage mechanism hazard review program, so that all necessary mechanical integrity work is identified and recommendations at California refineries are completed in a timely way. Indicators are used to monitor how well a company is performing in process safety. These recommendations focus on the need for indicator reporting to the regulator.

To Chevron USA: For Chevron, this is a second, urgent recommendation, and this recommendation is also to the California State Legislature, Governor of California. At all California refineries, require the
identification and reporting of leading and
lagging process safety indicators, such as the
action item completion status of
recommendations from damage mechanism hazard
reviews to Federal, State and Local regulatory
agencies that have chemical release prevention
authority.

It is vital that safeguards are
thoroughly evaluated and verified during the
process hazard analysis process. These
recommendations aim to require this evaluation
and verification.

To the Mayor and City Council,
City of Richmond, California. To the Board of
Supervisors, Contra Costa County, California.
And to the California State Legislature,
Governor of California: Require that process
hazard analyses include documentation of the
recognized methodologies, rationale and
consclusions used to claim that safeguards
intended to control hazards will be effective.

This process shall use established
qualitative, quantitative and/or semi-
quantitative methods, such as layers of
protection analysis, or LOPA.

The use of inherently safer
systems can drive risks down to as low as
reasonably practicable. A more rigorous
requirement for inherently safer systems
implementation is needed by California
regulators.

To the Mayor and City Council,
City of Richmond, California. To the Board of
Supervisors, Contra Costa County, California.
And to the California State Legislature,
Governor of California: Require the documented
use of inherently safer systems analysis in
the Hierarchy of Controls to the greatest
extent feasible in establishing safeguards for
identifying process hazards. The goal shall
be to drive the risk of major accidents as low
as reasonably practicable (ALARP). Include
requirements for inherently safer systems
analysis to be automatically triggered for all
management of change and process hazard analysis reviews, prior to the construction of new processes, process unit rebuilds, significant process repairs and in the development of corrective actions from incident investigation recommendations.

Regulatory enforcement can be improved by California agencies working together and sharing information. Also, enhanced transparency will hold process facilities accountable to regulators, the workforce, and the public. There are four parts to this recommendation.

To the California State Legislature, Governor of California: Establish a multi-agency process safety regulatory program for all California oil refineries to improve the public accountability, transparency and performance of chemical accident prevention and mechanical integrity programs.

This program shall (1) establish a
system to report to the regulator the recognized methodologies, findings, conclusions and corrective actions related to refinery mechanical integrity inspection and repair work arising from process hazards analysis, California oil refinery turnarounds, and maintenance-related shutdowns;

(2) require reporting of information, such as damage mechanism hazard reviews, notice of upcoming maintenance-related shutdowns, records related to proposed and completed mechanical integrity worklists, and the technical rationale for any delay in work proposed but not yet completed;

(3) establish procedures for greater workforce and public participation, including the public reporting of information;

(4) provide mechanisms for Federal, State and Local agency operational coordination, sharing of data, including safety indicator data, and joint accident prevention activities.
The California Department of Industrial Relations will be designated as the lead state agency for establishing a repository of joint investigatory and inspection data, and coordinating the sharing of data in joint accident prevention activities.

To the U.S. Environmental Protection Agency: Jointly plan and conduct inspections with Cal OSHA, California EPA, and other State and Local regulatory agencies with chemical accident prevention responsibilities to monitor the effective implementation of damage mechanism hazard review and disclosure requirements under recommendations 9 and 10.

And in case you don't recall them by number, recommendation 9 to the California State Legislature, Governor of California, requires that refineries perform a documented damage mechanism hazard review. Recommendation 10, also to the California State Legislature, Governor of California,
requires that refineries identify and report leading and lagging process safety indicators.

To the Board of Supervisors,
Contra Costa County, California. To the Mayor and City Council, City of Richmond, California. To the California Air Quality Management Divisions. And to the U.S. Environmental Protection Agency, and to the California Environmental Protection Agency:
participate in the joint regulatory program described in Recommendation 11. This participation shall include contributing relevant data to the repository of investigation and inspection data created by the California Department of Industrial Relations and jointly coordinating activities.

And in case you don't recall, recommendation 11 to the California State Legislature, Governor of California, is the four part recommendation that requires the establishment of a multi-agency process safety regulatory program for all California oil
That concludes our investigation presentation.

(Appplause.)

CHAIRPERSON MOURE-ERASO: Thank you very much to the panel. I thank you for your work. It has been more than six months of very sleepless nights, I know, from all the people here, and I really very much appreciate all the effort that this panel has put into this report. Thank you.

Our next issue on the agenda is statements by elected officials. The first statement I would like to invite, the Congressman from California, George Miller, is going to present a statement. Congressman Miller?

(Appplause.)

REPRESENTATIVE MILLER: Thank you very much, Mr. Chairman. Before I begin speaking, maybe we can take a moment for a sigh of relief that the second suspect in
Boston has been apprehended, and an expression of gratitude to our first responders at all levels of agencies and government. That's some good news.

(Applause.)

REPRESENTATIVE MILLER: I want to thank you, Mr. Chairman and Members of the Board, for allowing us this time to speak to you in response to the initial report. And I want to express our gratitude, I hope for our whole community, for the professionalism and the diligence and the persistence of your investigative staff since the time of the accident. They've been remarkable in their leadership and in their willingness to work with our other agencies at the county and state level. So thank you very much for that effort by the Chemical Safety Board.

The massive fire that occurred on August 6th threatened the lives of workers who escaped the vapor cloud, and had a direct and tangible impact on the West County community.
The investigation by the CSB, Cal OSHA and Chevron suggests deeper problems than whether or not Chevron should have replaced a corroded piece of pipe that eventually leaked.

First, we have learned that Chevron's metallurgist and inspection teams had put up a red flag since 2002, and as recently as the 2011 turnaround, calling for the replacement of the corroded piping.

Second, the investigation reports indicate that Chevron had repeatedly failed to implement its internal guidance, which called for 100 percent inspection of all piping components where there is potential for sulfidation corrosion. Chevron also failed in the implementation of recommended practices developed by the American Petroleum Institute, even though they'd helped to develop these guidances based upon numerous catastrophic failures over the past 40 years.

Third, we have learned that over the past 10 years Chevron has patched pipe
that was too thin or was leaking with over
2,000 clamps. Nearly 400 of these were used
in hydrocarbon service, and in some cases when
clamps leaked Chevron slapped even bigger
clamps on top of the leaking clamps. And when
Cal OSHA finally looked into this, they found
that the defective pipe had not been replaced
as required during the next turnaround. I
must say that I agree with Member Beth
Rosenberg, that this begs a much larger set of
questions.

Chevron has pointed to its
operational excellence program as the
cornerstone of its safety culture. It is
founded on two key principles. One, and I
quote, "do it safely or not at all," unquote.
And the second one, "there is always time to
do it right."

What happened to these principles?
Are these principles something that was
discarded when it was inconvenient? Someone
needs to answer this question. How did the
management of a highly sophisticated corporation lack the ability to connect the expertise of its physical materials scientists, located right here in Richmond, with the practices of its business units operating 300 yards away in its refinery?

Was there an organizational failure? Are there other cracks lurking in Chevron's management systems? Does Chevron have the same problems at its El Segundo refinery? Is this an industry-wide refinery problem? I hope that the Safety Board's final report gets to the bottom of these questions.

Why was Chevron's inspection team's advice to replace the piping overridden during the 2011 refinery turnaround? Was the decision not to replace this piping driven by budget considerations? How much was saved? Did someone pencil whip the numbers to justify keeping the corroding pipe in place a little longer?

I urge the Safety Board to tackle
these unanswered questions in its final report. I am aware that Supervisor Gioia and
the County Health Department under Randy Sawyer's leadership is also doing a
comprehensive audit of the Richmond refinery, and hopefully this work will help shed light
on these questions.

The need for effective regulations -- because our second overarching concern is
the lack of the effective regulations to serve as a check and balance. Chevron cannot
currently guarantee the security of the workers and our community. Inspection by the
company alone is not enough, and it is troubling that the regulators did not recognize the magnitude of the problem and did not bend Chevron back into compliance.

We know that Cal OSHA is severely underresourced, with a mere seven professional
staff in its process safety unit to tackle 1,600 facilities statewide, and I think that's why we see some of the recommendations of your
staff. We cannot tolerate these once-over lightweight programmed inspections at these facilities.

I have written to Governor Brown asking that he submit a budget proposal that would assess a process safety fee on refineries and other chemical facilities so that there is enough staff to oversee these facilities in a more thorough manner.

(Applause.)

REPRESENTATIVE MILLER: In case anyone is worried about the added cost, it amounts to less than one cent of every barrel of crude that is fed through the refineries in California. That is far less than the increased gasoline prices paid by consumers due to the refinery outage.

I want to commend Senators Loni Hancock, Mark DeSaulnier, and Assemblymember Nancy Skinner for their leadership and working hard to get funding to hire more inspectors. They recognize the status quo is unacceptable.
They have also been working on the improvements to the State's workplace safety laws and evaluating ideas for better regulation systems for refineries, and I want to help them get those improvements as soon as we possibly can.

I would like to hear from the Chemical Safety Board what the definitive schedule will be for a final report that will answer these big questions that your interim report has raised, but does not answer: Were the budget considerations a driver in the failure to replace the piping? Does Chevron have a safety culture problem, as raised by Board Member Griffon?

These are serious considerations. It would be not the first time this Board has considered that question. We saw it in the Alyeska Pipeline, where for almost a decade the culture problem was admitted to and never cured.

Were there organizational
failures, and are there other cracks in the safety system? What is broken in the current regulatory system, and do we need to look for a new way to regulate refinery safety? I think the presentation tonight goes a long way towards answering that question, but we have to answer it from the corporate side for the safety of our community and our workers.

In light of the large backlog of unfinished investigations at CSB and the constant demand for work that you notice today because of the Texas explosion and the burden that that puts on your Board and staff, I would also ask that you provide a clear date when the community will get a final report with the answers to these questions.

I look forward to hearing from you, and a response in the near future. I have seen too many refinery accidents in my years representing this community, and I want to see some meaningful solutions emerge from this discussion.
Again, I want to thank you so very much for your endeavor here, for your professionalism, and again for the professionalism and the diligence and the expertise of your staff. Thank you very much. We look forward to your responses.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you very much, Congressman Miller. Now I would like to call for a statement to John Gioia, the Chairman of the Contra Costa Board of Supervisors.

MR. GIOIA: Thank you. I am not chair this year, so let me just clarify that.

CHAIRPERSON MOURE-ERASO: Okay.

MR. GIOIA: I'm also a member of the Bay Area Air Quality Management District, and let me first start by saying we welcome the Chemical Safety Board coming to Richmond. Your investigation, report and recommendations are thorough and comprehensive. Personally, I appreciate the attention, transparency and
professionalism that you have brought to this investigation.

I know that all Richmond residents care and have an interest in ensuring that our safety and health come first and foremost when it comes to the operation of an industrial facility. I personally know this well. In 1999, I was forced to pick up my son from a local elementary school near the Chevron refinery while a release was going on and while shelter in place was going on, and I felt the same fear and uncertainty as I know other Richmond residents felt at that time.

I think the most important conclusion in your report is that this accident is not about pipe corrosion, but is about corporate decisionmaking. It's about the need to improve the safety culture and decisionmaking at the refinery. Things like deciding in advance on which materials to use which are safer, frequency of inspections and maintenance, and when to replace equipment and
pipes.

So as you've said, while we're fortunate that Richmond and Contra Costa County have, in your own assessment, the strongest local industrial safety ordinance in the country, we also know that this ordinance can be further improved. Both the Contra Costa Health Department and myself personally welcome your recommendations, and especially your two main recommendations to improve the industrial safety ordinance, first requiring the use of inherently safer systems prior to the construction of new processes, prior to process unit rebuilds, prior to significant process repairs, or when implementing corrective actions after an incident like the one that just occurred.

This will give both Contra Costa County and Richmond power to force refineries to use inherently safer systems, a power that we don't have today.

Second, requiring a process hazard
analysis conducted by refineries to use quantitative and qualitative methods to document that the refinery is using the safest methodology to control hazards within its facility.

Immediately after the Chevron accident, the Contra Costa Board of Supervisors formed an ad hoc Committee of the Board, including myself and Supervisor Federal Glover, to address the issue of the industrial safety ordinance. We have awaited your recommendations, and now that you have made these specific recommendations we will work with Richmond to quickly implement these changes in the local ordinance.

(Applause.)

MR. GIOIA: Let me also say, we've already taken action. Several weeks ago under the current ISO Contra Costa County ordered a full safety culture audit of the Chevron refinery to be conducted by an independent professional entity. An oversight committee
made up of community residents, workers at the
refinery, Health Department staff and City
staff will be established to ensure that the
safety audit is conducted in a transparent,
through and independent manner.

Under the industrial safety
ordinance, we have the authority to require
Chevron to pay for this study.

Finally, last year in my role as
Chair of the Bay Area Air Quality Management
District I proposed, and the Air Board voted,
to work with Senator Hancock and Assemblywoman
Skinner to carry a bill to increase the
maximum fines under State law for air quality
violations. The current maximum fines are
nowhere near high enough to be an incentive.
They are too low.

(Applause.)

MR. GIOIA: And we appreciate the
support of our local legislators in carrying
that bill. We know we will face opposition
from industry. And I think your
recommendations going forward, in your final report, encouraging that would be helpful.

So again, thank you, even under these circumstances, for coming to Richmond and setting a model in terms of how an investigation should be conducted, in terms of your transparency and your professionalism.

Thank you.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you very much. Thank you very much, Mr. Gioia. I would like to invite now one person that has been a very gracious host for us here, or I would say hostess, in the City of Richmond. I would like to invite Ms. Gayle McLaughlin, the mayor of the City of Richmond.

(Applause.)

MAYOR McLAUGHLIN: Hello. Thank you. Thank you so much to the Chairman and the entire Chemical Safety Board, and all the staff of the Safety Board, for coming to Richmond, for being here today to share with
us the interim results of your investigation.

The August 6th fire was a devastating experience for our community. Not only were 15,000 people treated at local hospitals, but the workers had their lives put at great risk. We were forced to stay in our homes and shelter in place for hours. The damage to our health, to our community, to the image of our city, was massive.

And this wasn't the first time Chevron has wreaked havoc in our community. There have been many, many incidents over recent years and decades. In fact, there was a fire in the same crude unit that occurred in 2007.

We need to have Chevron understand that our community is not going to forget about this. We cannot afford to forget about these incidents. These incidents have been harming us again and again. There have been around 14 incidents since 1989, 1990, and this last incident, this 2012 incident, was the
last straw.

    It reminds me of a metaphor. You know, I think we've all heard of the abused spouse syndrome, where the abused spouse takes the abuse and the next day, after the abuse, the spouse comes and says to him or her that "I'm so sorry, it'll never happen again." And it happens again. And it happens again. And it happens again. But sometimes abused spouses wake up, and abused communities wake up. And that is going to happen, and is happening in the Richmond community.

    (Applause.)

    MAYOR McLAUGHLIN: Many of you remember, many of you in the community remember that it wasn't that long ago that we had a majority of Chevron-influenced officeholders on the Richmond City Council. We used to call them the Chevron Five. And we still have some Chevron-influenced and Chevron-backed officeholders on the Richmond City Council, but we're pushing forward, and
we're going to continue to push forward.

We have an organized, mobilized community, and I call on all of our community to continue to mobilize. Call on your neighbors. Let people know we cannot and will not forget this incident, and past incidents, and we will not suffer a future incident, because we will make sure that these wonderful recommendations that the Chemical Safety Board is presenting to us today will be put in place.

(Applause.)

MAYOR McLAUGHLIN: The political will is here in this community, and I can tell you that I stand side by side with this community, and others on the City Council. I know we have City Councilmember Jovanka Beckles in the audience today, who stands right with me in making sure that it's understood that Chevron needs to be regulated.

(Applause.)

MAYOR McLAUGHLIN: You know, we
have often -- those of us who have stood up to
Chevron have often been called Chevron-
bashers, when in reality it is Chevron who has
been bashing our community.

(Applause.)

MAYOR McLAUGHLIN: And we are
standing up. And we are so grateful that this
independent board recognizes the injustices
that we have suffered, and is here helping us
today.

I take your recommendations so
much internally to heart, and I can tell you
that as mayor I will be bringing to the City
Council a resolution on May 21st to revise the
industrial safety ordinance as per the
recommendations of the Chemical Safety Board.

(Applause.)

MAYOR McLAUGHLIN: And I call on
the community --

(Applause.)

MAYOR McLAUGHLIN: The Chemical
Safety Board proposes that Richmond strengthen
its industrial safety ordinance to require inherently safer technology and a hierarchy of controls that would eliminate hazards instead of minimizing them when feasible, and would prohibit companies from relying totally on managing hazards that can be eliminated by design through inherently safer technology.

So we know what you're recommending. I will be bringing it forward. I know the community will be standing there, speaking out at the City Council meeting, because this community does hear the call when a rational recommendation gets put forward, as is being recommended by the Board today.

Lastly, I want to say that we are transforming our city. We are transforming our city by way of creating a healthy city, a sustainable city, an equitable city. And this, this incident has put such a negative, if you will, shadow over us. You know, we have so much shadow over us based on Chevron: the shadow of their pollution, the shadow of
the risk they create for us. And I mean, ultimately, it's the shadow over the image that we're creating.

But we will persist, and we will continue to showcase Richmond as a 21st century city, a city that's standing up for itself, in its own interest. So we will not be satisfied until Chevron understands that they have to stop polluting our air, stop putting us at risk.

(Applause.)

MAYOR McLAUGHLIN: And lastly, because they influence our elections with their millions and millions of dollars, we will not be satisfied until they stop polluting our elections as well.

(Applause.)

MAYOR McLAUGHLIN: Thank you.

CHAIRPERSON MOURE-ERASO: Thank you very much, Mayor McLaughlin. We appreciate your words. The next elected official is the representative of Senator
Skinner, who cannot be with us. The person representing the message of Senator Skinner is Mark Chekal-Bain. So Mr. Chekal-Bain, please.

MR. CHEKAL-BAIN: Thank you.

Thank you so much for inviting Assemblymember Skinner to speak today. Unfortunately, she's in Southern California on business, and asked that I present for her this evening.

First of all, she wants to thank the Chemical Safety Board's staff. They've done an incredible job of the work and informing us along the way when they can. And as the U.S. Chemical Safety Board staff stated at a press conference on Monday, and again several times tonight, the Chevron refinery fire was ultimately a preventable accident.

As Assemblymember Skinner found in the draft report, it calls for the State of California to have more technically competent regulators, increased inspections, and much better regulations to prevent future incidents. But these are not an excuse for
Chevron failing to follow their own internal technical documents, to learn from failures at Richmond and the other sites, to listen to their own employees, or to replace corroded and leaking pipes during routine turnarounds, all things that Congressman Miller addressed earlier.

But as far back as 2007, the CSB had identified the need across the country for OSHA units to have more highly trained and experienced regulatory inspectors, and for more comprehensive inspections at oil refineries. Yet, as of today, Cal OSHA does not have any more inspection staff than previously, nor any higher training requirement. And because of the small number of refinery inspectors, what happens is that we in California are unable to put adequate hours into accident prevention. Instead, the vast majority of inspector time ends up investigating, post incidents. For example, Cal OSHA has spent
thousands of hours investigating the August fire, but in the last six years Cal OSHA inspected Chevron only three times, each time for about 50 hours. In contrast, refinery inspections following federal guidelines last year, roughly 1,000 hours each.

In the report, the CSB concludes that issuing fines and prosecuting companies post-incident are not acceptable substitutes for prevention. Therefore, after the CSB report, this week Assemblymember Nancy Skinner testified on behalf of additional staffing and training levels for Cal OSHA before the California State Assembly Budget Subcommittee that decides on the Cal OSHA and California Department of Industrial Relations budget.

At the request of Assemblymember Skinner, the Budget Subcommittee on State Administration is examining the process safety management unit, which works to prevent or minimize the consequences of catastrophic releases of toxic, flammable, or explosive
chemicals.

As she stated at the hearing, Assemblymember Skinner said the staffing numbers are alarming. Cal OSHA, the state agency responsible for workers' safety, has only one chemical engineer to regulate all chemical processing facilities, and only seven inspectors total to cover 15 refineries, as well as 1,665 other facilities.

Explosions like the one here in Richmond, as well as Wednesday's explosion at a fertilizer plant near Waco, Texas, have taught us all that California needs to ensure that OSHA has enhanced funding and staffing, and the technical training to enact precise safeguards so that our chemical and refinery facilities are not a disaster waiting to happen.

Assemblymember Skinner looks forward to working with the Chemical Safety Board, and the community of Richmond, to ensure that we have effective California
regulations and funding for OSHA to prevent future incidents from happening.

Thank you.

(Applause.)

CHAIRPERSON MOURE-ERASO: The next item on the agenda is that the Board is going to have some questions to the investigative team. So I'll take the privilege of the Chair to ask the first question.

I would like to ask the team if they consider that the changes in the recommendations to the California Legislature in this investigation could be considered for adoption by the California Task Force on Refineries in this state, and also if those recommendations are also applicable to be a standard nationwide.

INVESTIGATOR TILLEMA: To address the first part of your question, whether this could be adopted by the governor's task force to write the report, we focus on three key areas that are covered on the front cover of
the report: inherently safer design, damage
mechanism hazard reviews, and ensuring
effective safeguards, in this report. We also
touch on some of the regulatory issues.

So I think this would be a good
first step for the California Governor's Task
Force to utilize, but I want to reiterate
things that we've said already tonight. This
is our interim report, and we still have a lot
of work to do to complete our final report.

One of the key areas we want to
focus on that we haven't done much work on yet
is the safety case, which is a regulatory
regime that's been utilized in other countries
effectively, and we want to look at whether or
not that's an opportunity for California to
adopt that type of regime as a more effective
way, or a more effective approach, to prevent
major accidents. So that's a key area that we
want to focus on that I think the Governor's
Task Force would be interested in that's not
covered in this report.
And the second part of the question was about the U.S.?

CHAIRPERSON MOURE-ERASO: Yes.

INVESTIGATOR TILLEMA: I guess one thing that I'd like to make clear to everyone is, these things that we've identified, these damage mechanism hazard reviews, the use of inherently safer design, ensuring that safeguards are effective, these are not things we went back to Denver and developed. These are all things that were developed by the petrochemical industry as ways to prevent major accidents, and they're just not being effectively utilized in the industry.

So I think absolutely that these are things that could be -- that these recommendations could apply to the U.S. I think we have some challenges we want to look at as to how to best approach bringing those type of recommendations to the entire nation, but I think they would be applicable, yes.

CHAIRPERSON MOURE-ERASO: Thank
you very much. I wonder if some of the Board members have some questions. Let's start with Beth Rosenberg.

MEMBER ROSENBERG: Nothing.

CHAIRPERSON MOURE-ERASO: Mark Griffon?

MEMBER GRIFFON: I have just a few questions, especially because we have a panel still waiting to give us some great insights. So I -- one question, just a couple on the technical side of the report, though. The first thing that struck me in the write-up was that we concluded that 19 people were caught in the vapor cloud.

And I'm just wondering, this is in the midst of a leaking pipe that they're trying to patch or repair, and I'm wondering, did we look at why there were so many people near that situation and caught in that vapor cloud? It seems to me that's a lot of people to be out in that area of the site when there's a leaking pipe and there's a repair
going on. I just wondered if you looked at that.

INVESTIGATOR TILLEMA: I'd say we done some preliminary looks at that, and we share the same concerns you do. It's definitely an area we want to focus on in the second half of the report. The rest of the team has gone down to Texas A&M where there's a world-renowned fire training school, where they focus on emergency response. We've done some initial work with them, but we need to continue that effort. That's an area that we definitely want to focus on in the second half of our investigation.

I don't know if anyone wants to add to that.

MEMBER GRIFFON: Thanks. Just two more quick ones, I think. This question about -- there's a couple references in our report to the pipe thickness. And obviously I'm much more interested in the higher-level decisionmaking issues. Having said that, we
mentioned this pipe, the nominal thickness of 0.32 inches. And I'm just curious, what was the allowable thickness, and how is that derived? Or how did Chevron derive that, and was it adequate in your opinion?

INVESTIGATOR TILLEMA: That's actually a much more complicated question than you might at first --

MEMBER GRIFFON: Well, if you can give me the 30 second answer?

INVESTIGATOR TILLEMA: I think I'm going to defer. Steve and Roger have done a lot of work in this area, and are probably the best people to answer that.

INVESTIGATOR EVANS: One way to try to describe it, there's a term that they use at Chevron called flag thickness, and what they mean by that is, that's kind of when you raise the red flag. When the pipe thickness gets to that point, that's when you actually have to start making decisions about what you're going to do.
When they get to flag thickness, they have three options according to their internal procedures. The first is, they can shut down and replace the pipe.

The second is, they can do some calculations -- the flag thickness is a book number. They can do some calculations to try to determine, based on the pressure in the pipe or based on the mechanical strength necessary to keep it up in the air, they can calculate an actual minimum thickness based on those structural needs. And if they haven't reached that yet, then they can continue to operate as long as they are looking at it regularly. They have to do a management of change, that is a temporary management of change with a date certain, usually the next turnaround.

And then the third thing that they can do is, that they can do a management of change to install some type of a leak control device, like the clamps that you've heard
referred to this evening. And those three
options, when they hit flag thickness, they
have to do one of those three things.

INVESTIGATOR TILLEMA: Thank you,
Roger.

I'd just like to add that the main
thing about this particular case, and this
piping that failed, we didn't have a flag
thickness on it because it wasn't inspected.
That's a key point.

INVESTIGATOR EVANS: Yeah, the key
there is that you have to, in a situation like
sulfdation corrosion that affects the entire
length of the pipe, you have to make sure
you're looking at the places that are the
thinnest part of the pipe. And this pipe, had
they looked at it, had they known it was this
thin during the turnaround, they would have
replaced it. But they didn't know. I mean,
what you don't know is the devils in the
details sometimes.

And so the flag thickness was
quite a bit thicker than what this pipe actually was. It was way beyond flag thickness. We've mentioned, about half the thickness of a dime. That's also a little less than the thickness of a credit card, or about the thickness of two business cards, to give you just another couple of visuals.

MEMBER GRIFFON: I'd like to have that --

INVESTIGATOR EVANS: One more thing. Mr. Sam McFadden over here from Anamet, that's his poster over there, and he has that sample that shows the thinning, the thin sample, and he also has two rings. The rings he has are eight inch diameter pipe. One of the rings is a .322 wall, which is the thickness the piping is when you buy it. The other sample he has is a ring that is indicative of what was at Chevron. And you can just feel the weight and see the drastic difference. Sam would be glad to show you that.
INVESTIGATOR TILLEMA: Maybe just to summarize --

CHAIRPERSON MOURE-ERASO: Where are the rings right now, Roger? If somebody would like to examine the rings, they should talk with Doctor McFadden there.

INVESTIGATOR TILLEMA: And just to summarize that question, we just touched on the complications involved with this issue. But the whole complication with this issue highlights again the importance of using inherently safer materials so that you don't have as many details encumbered in your system as you do with carbon steel in this surface.

MEMBER GRIFFON: And one final question. We recently received a copy of Chevron's investigation report on, I think, April 12th. And I was curious if you could highlight just a few of the main differences between sort of our causal analysis versus the root causes they identified.

INVESTIGATOR TILLEMA: Okay. I'll
confess, I've only read the report one time, and I think it was last Sunday. We've been quite busy preparing for this meeting. We talked about it briefly this week, and I think in general we were encouraged that Chevron also identified the need to properly identify damage mechanisms. Their report doesn't call it a damage mechanism hazard review, but they were getting at the same concepts, and we were encouraged by that.

On the other hand, we were quite disappointed that a lot of Chevron's focus was on low-level administrative issues. They focused on inspector training and competency. They talk about in 2002 that an inspector identified this corrosion, and one of the problems was that he only placed a comment in the inspection file. In 2009, when the ETC, the technical report, came out and identified the need for 100 percent inspection, it wasn't entered into their management system. In the 2011 turnaround, they didn't perform 100
percent component inspection because it had not been placed in the inspection plan for the turnaround.

All of these are very low administrative failures. However, I would point you to paragraph 49, which we added to the report this week, and it wasn't available on the version that went out on the internet. During our team meetings this week, we added this section that talks about in March of 2012, a Chevron corporate review was done of the Richmond refinery, and they found that critical inspection recommendations were being submitted by employees but were being denied.

So Chevron corporate identified this problem back in March, five months before the incident, and that same review focused on Richmond refinery leadership as needing to implement these 2009 recommendations. And so the corporation focused at a higher level than what Chevron's investigation report does.

MEMBER GRIFFON: Thank you.
CHAIRPERSON MOURE-ERASO: Thank you very much. Thank you very much for the panel, and I think we move to the next item on the agenda. We are very lucky, and we are very thankful of having with us a very important and wise panel that could address a lot of the issues that were raised by this accident. I would like to name the panel first on a list, and then I will call them in the order of the agenda.

With us is Ellen Widess, who is the Chief of California OSHA. She's here on the table. Also we have Professor Paul Amyotte, from the Department of Chemical Engineering of Dalhousie University, from Canada. We have Randy Sawyer, the Chief Environmental Health and Hazardous Materials Officer of Contra Costa County. We have Tupper Hull, the Vice President for Strategic Communications from the Western States Petroleum Association. We have Mike Smith from the United Steel Workers Local 5, safety
representative. We have Ron Espinoza, from the United Steel Workers International Union. He is the subdirector of District 1. We have also Greg Karras, from Communities for a Better Environment, who is a senior scientist. WE have Mike Wilson, who is the director of the Labor Occupational Health Program for the University of California at Berkeley.

So I will call first on Ellen Widess, the Chief of California OSHA. Ms. Widess?

MS. WIDESS: Thank you, Mr. Chairman, Board and Staff of the Chemical Safety Board for your thorough investigation and productive collaboration with Cal OSHA. And I also want to give thanks to our State, Local and national legislators for their leadership and commitment to improving refinery safety for workers and communities.

There are many, many lessons from the August 6th fire, and chiefly the importance of adequate preventive measures to
ensure no future incidents. That requires both a strong and informed regulatory system to monitor refinery compliance, and a true and genuine proactive commitment to an investment in safety by the refineries.

I will briefly summarize Cal OSHA's investigative findings, and I want to kind of indicate that, while we were grateful -- we are grateful -- that there were no serious worker injuries and fatalities from this preventable fire and explosion, our investigation over the past six months indicated many systemic, pervasive problems in corporate management, in failure to follow not only California's and national process safety standards, but Chevron's own policies and procedures.

As a result of our investigation, we found and issued 25 citations, 23 of which were serious or willful serious violations, which indicates the degree of severity of the hazards, the serious possibility, reasonable
possibility of death or injury of these hazards, and the degree of knowledge and intentional conduct on the part of Chevron in ignoring those hazards and known safety standards.

I might add that our citations issued January 30th in many ways mirror Chemical Safety Board's findings issued this week. We issued nearly 1,000,000 dollars in penalties, the highest in Cal OSHA's history, and the maximum allowed under current law. Chevron has appealed all citations and penalties, and the appeal has not yet been set for hearing by the Independent OSHA Appeals Board of California.

What is striking to us was that there were many, many serious violations prior to, during and after the fire. This was demonstrated in the video that Dan provided, which helped me understand in ways I now get much more clearly the many, many problems.

And as I mentioned, failure to comply not only
with the PSM standards but Chevron's own policies put workers at risk at every point in the process.

Just to summarize very, very quickly, no effective process hazard analysis of the crude unit, no corrosion monitoring, no replacement of severely corroded pipe known, as we've heard repeatedly now, for 10 years, identified, ignoring the strong and repeated recommendations of pipe inspectors and Chevron's own metallurgists. Failure to take advantage of at least three opportunities to replace this severely corroded pipe and prevent the accident that did occur during turnarounds at least three times, in 2002, 2007, and 2011.

We, too, were concerned that so many workers were at grave risk in the zone of danger, Chevron's own workers and contractor workers brought in. We were concerned and cited for the failure to shut down despite the obvious leak, putting workers at risk while
attempting to clamp the obviously dangerous situation, not following Chevron's own emergency procedures.

And then, in the course of this investigation and through information provided also by the workers and union at Chevron, the identification of really failed leak repair procedures throughout the refinery. The use of clamps throughout the refinery well beyond allowable time limits, rather than implementation of permanent and safe correction of problems.

And most disturbing -- I think I repeat what has been suggested before -- from Cal OSHA's perspective, most disturbing was the fact that Chevron knew for over a decade of the hazardous conditions of severely corroded and worn pipes and leaks, knowledge that they uniquely had, knowledge not available to Cal OSHA or other regulatory agencies, of the highly corrosive high-sulfur crude state of pipes in existence for 38
years.

Chevron had that unique knowledge of hazards, the ability and ample opportunity to act to prevent the fire that occurred, the risk posed to workers and communities, and frankly other accidents that could have caused catastrophic consequences. We can only wonder what other hazards have been known and not reported to us.

Frankly, running to failure rather than following best practices, industry guidance, and Chevron's own policies and internal recommendations to replace, to inspect more frequently, were conclusions that we drew from our investigations. The consequence was putting Chevron's own workers and their contractor employees, as well as the community, at great risk of death or serious injury, with the knowledge of the likely consequences of this action and pervasive violation of safety standards.

What may be lost in the aftermath
of the August 6th fire, and what I want to emphasize, is the fundamental responsibility of Chevron and other refineries to ensure the safety of their workers and all other workers on site at all times.

Cal OSHA's mandate -- no matter what resource level we have, our mandate is to monitor the compliance of refineries to ensure that they are maintaining safe and healthy workplaces. Our recommendations from this and lessons learned are fourfold.

First, again as has been mentioned, the need for greater transparency. At this point, we are operating without sufficient information from Chevron and other refineries, information that is often technical, trade secret, proprietary, but information that is desperately needed for effective monitoring and enforcement.

Given the size and complexity of refineries, the changing technologies, processes and materials, there is an
overwhelming need for more timely information and reporting by refineries at such times as turnarounds so that we can better target and prioritize inspections, rather than look and divine hazards that are well known to Chevron and to other refineries.

We need to be able to have that kind of information to address most serious and known hazards that refineries have themselves identified, rather than guessing. That is the most effective use of resources. Even the most well-resourced agency alone cannot act effectively without this type of information in real time provided by refineries.

Second, prevention should be the driving force, not reaction to accidents. Continuous improvement is the best practice, and that includes improvement in process management, in refinery maintenance, in standards and in regulatory strategies.

As the CSB's report has
underscored, the industry has the knowledge and the power to eliminate hazards in so many ways, by using inherently safer designs and materials, instead of relying on government inspections alone, when possible and when adequately informed, to detect problems known to the refineries.

Again, the refineries are in a unique position to have that information. The need for more investment by refineries in infrastructure -- as pointed out, this is an aging industrial system. Pipes, the pervasive use of clamps demonstrates this lack of commitment at Chevron, and maybe as well throughout our refineries in California. That will be the subject of our process quality verification inspections this year. That's looking at only one of myriad issues we could be looking at in the refineries.

I want to just remind the community and the CSB, we spent a lot of time as State and Local and national regulators
considering the appropriate pipe material to rebuild the crude unit after the fire. And though there was a lot of attention to the pipe material, frankly, the quality and the frequency of maintenance was equally important in this decision, and that requires a commitment by Chevron.

They alone, again, have the intelligence about the type of crude, the silicon content, the temperature, the pressure in those pipes, so the simple decision -- again, decisions which in some cases are being foisted on local government without all of this information to reach the best informed decision, leaves us all, workers and the community, at peril.

Thirdly, the culture of safety. Frankly, I'd like to understand better what that term means. And I look forward to the CSB's final report to provide more to that mysterious title, which can belie many things. But I want to indicate -- and much has been
said about corporate decisionmaking, decisions
to ignore the clear and repeated
recommendations by scientists, where business
management ignored those decisions. I share
Congressman Miller's curiosity, frustration,
with that whole process, and we look forward
to those answers by Chevron and by the
Chemical Safety Board.

I think, though, that one element
of a culture of safety that Cal OSHA believes
is absolutely imperative is empowered workers.
Workers are in the best position to identify
the hazards --

(Appause.)

MS. WIDESS: -- and they need to
be part, an integral part, of policies and
procedures and decisionmaking at refineries.
I was equally concerned by the report we
received that indicated concern about
retaliation, fear of reporting hazards to
management at Chevron, as well as to Cal OSHA.

The freedom and the necessity of
workers to report unsafe conditions and
c hoặc both to us and to management, the
ability of workers to freely know that they
can shut down hazardous operations facing
imminent hazards, we feel was at fault, the
lack of that freedom was at fault in this
accident, which could have killed not only
many workers but many community members.

And then finally, I just want to
close with a comment about an agreement with
the CSB's recommendation for the need for a
more coordinated and collaborative inter-
agency regulatory approach to both worker,
community, and environmental protection from
refinery hazards.

I am proud to be part of this
administration, and want to note that the
Governor's Interagency Task Force was launched
well before CSB's recommendations and report.
We began very early in the process and
realized it was not only Cal OSHA's regulatory
insights and investigation, but the work of
our sister agencies at a local, state and national level that are the only way to ensure future protection.

We are hard at work, both looking at better coordinated and effective and responsive emergency preparedness, as well as prevention measures. This report will give us new risks to consider. The Governor's Task Force is certainly looking at ways we can share data about hazards, about enforcement histories, consider joint or coordinated enforcement actions, and certainly to improve the transparency and clarity of the different agencies' responsibilities, their laws, their jurisdictions, and empower much more effective enforcement actions, again to ensure the protection of refinery workers and communities.

We have been gathering the perspectives of all stakeholders: labor, industry, community and others, and will be issuing a report and recommendations in May.
And I want to again just loop back to the transparency and the critical ingredient of information from refineries of their hazards, of their processes. A strong and well informed regulatory system is certainly key, and better systems for collaboration are in the works. But they will demand, ultimately, more transparency from the refineries of key information essential for worker protection and community protection.

Thank you.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you. Thank you very much, Ms. Widess.

The next person is Professor Paul Amyotte from the Department of Chemical Engineering of Dalhousie University. Doctor Amyotte is one of the few experts in the world on inherently safer systems. Doctor Amyotte?

DR. AMYOTTE: Thank you, Chairman, Members of the Board, ladies and gentlemen. I'd like to begin by offering my expression of
concern for the workers and the members of the public who have been so adversely impacted by the process incident that we're discussing this evening. I also want to thank the Chemical Safety Board for inviting me to be here and to give this presentation.

A little bit of legal business here for a moment. On the advice of the California Board for Professional Engineers, Land Surveyors and Geologists, I declare that while I am registered as a licensed professional engineer in the province of Nova Scotia, Canada, I do not hold a similar license in the State of California.

There are two main areas in which I have focused my presentation. First, I will comment on the CSB's interim investigation report from the perspective of inherently safer design. And secondly, I will comment on the need for the adoption of a lessons learned mentality in the process industries.

Let me start by saying that I
wholeheartedly agree with the analysis and the conclusions on the above points which are contained in the interim report. I'm a strong proponent of inherent safety and lessons learned. As a process safety educator and researcher, both have figured prominently in my teaching and in my research efforts.

The discussion in the interim report on inherently safer design is perhaps the most direct and extensive use of the language of inherent safety that I've ever read in a CSB report. Inherently safer design, ISD, or inherently safer processes, ISP, or inherently safer technologies, IST, or just plain inherent safety, is a proactive approach in which hazards are eliminated or lessened so as to reduce risk with a decreased reliance on engineered or add-on devices and procedural safety measures.

The concepts of inherently safer design have been formalized in the process industries over the past 35 or so years,
beginning, of course, with the pioneering work
of Trevor Kletz, largely in response to the
cyclohexane explosion at Flixborough in 1974.

Trevor Kletz, and many others
worldwide, including key individuals here in
the United States, have formulated a number of
principles or guidewords that have gained
widespread acceptance. These are familiar:
minimization, substitution, moderation and
simplification.

The CSB interim report thoroughly
covers the issue of substitution of alternate
metallurgy to help address the problem of
sulfidation corrosion. One also sees in the
report the need to moderate process
temperatures when these approach or exceed
design limits for existing pipe materials.

And rather than continue with a
lecture on the principles of inherent safety --
- because I should warn you, as a university
professor, you know I'm programmed to speak in
increments of 50 minutes.
(Laughter.)

DR. AMYOTTE: But I won't do that. I'm simply going to state that numerous resources on the topic of inherently safer design are now available. There are books, including those by Trevor Kletz, and also the Center for Chemical Process Safety, or CCPS, of the American Institute of Chemical Engineers. There are journal articles, conference presentations, trade publications, and company guidance documents.

And Dan referred to this in his response to Board Member Griffon. What's noteworthy about all these resources is that most of them have been written by industrial practitioners, industry people, at all career stages, from the newly arrived to those with a full career already in hand.

So the call for widespread use of inherently safer design principles in industry is being made largely by people in industry, people like Trevor Kletz, formerly of ICI in
the United Kingdom, and Dennis Hendershot, formerly of Rohm and Haas in the United States.

Of the 18 committee members responsible for the production of the 2009 CCPS book Inherently Safer Chemical Processes: A Lifecycle Approach, 16 are listed as having affiliation with industrial companies. One is affiliated with a municipal regulator, and I believe I'm sitting next to him this evening, and one is a federal regulator. So again, the call for expanded ISD usage in industry is coming from within.

Earlier in my remarks, I referred to myself as a strong proponent of inherent safety. That is true, but it does not mean that I think inherent safety is a cure for all ills, or that ISD principles can always be fully implemented in all scenarios. There are some very practical issues related to inherently safer design that should be recognized by anyone either proposing or
regulating its use, and these issues, I believe, are well addressed in the Chevron interim report, as I'll now demonstrate.

First, there is clear recognition in the report that inherent safety works with other means of reducing risk, namely passive and active engineered safety and procedural safety, within a framework commonly known as the hierarchy of controls. Inherent safety, being the most effective and robust approach to risk reduction, sits at the top of the hierarchy, and it's followed in order of decreasing effectiveness by passive engineered safety devices, such as explosion relief vents, and then active engineered safety devices, like automatic fire suppression systems, and finally procedural safety measures, such as inspections, corrosion-related or otherwise.

This hierarchical arrangement, however, does not invalidate the usefulness of engineered and procedural safety measures.
Quite the opposite. The hierarchy of controls recognizes the importance of engineered and procedural safety by highlighting the need for careful examination of the reliability of both mechanical devices and human actions.

Second, inherent safety is referred to as being hazard-specific, meaning the risk of any new hazards that might be introduced must be adequately managed. The interim report makes ample reference to the use of management of change, or MOC, for this purpose.

Third, the report comments that ISD principles should not be restricted to only process hazard analysis, but should be implemented wherever it is possible to make improvements in the process safety management system. Examples would include the just-mentioned management of change, as well as incident investigation, training and human factors.

Fourth, the interim report
references the need to provide thorough
documentation of process hazard analysis
results and implementation of the findings.
Dennis Hendershot reminds us that this is
especially critical when dealing with ISD
features that could be put at risk because the
reasons they were implemented were not clearly
and adequately documented. Facility safety
could then be compromised when future
modifications are made by people who do not
understand the intent of the original
designer.

Fifth, the report makes clear
reference to inherent safety being most easily
and effectively introduced early in the
process lifecycle, for example at the design
build stage. Extended turnarounds, such as
would be required to replace process piping,
also afford excellent opportunities in this
regard.

And finally, the report introduces
the concepts of LOPA and ALARP in the section
on inherently safer systems. LOPA, or Layer of Protection Analysis, can indeed be used to determine the adequacy of safeguards or layers of protection for a given scenario. And it's interesting to note that the classic CCPS depiction of LOPA has inherently safer process design sitting at the central core of the layers.

As explained in the interim report, ALARP, or As Low As Reasonably Practicable, involves the implementation of risk reduction efforts until the incremental effort to further reduce risk becomes grossly disproportionate to the level of additional risk reduction achieved. ALARP is, therefore, a risk reduction goal that can be assessed by tools such as LOPA and other tools such as the combination of a fault tree and an event tree, in what is now known as bow tie analysis.

So the general point here is that, in addition to more qualitative tools, such as ISD checklists, some form of barrier analysis
is highly beneficial, so long as the barriers
cover the full spectrum of the hierarchy of
controls.

So I spent considerable time in my
presentation on the matter of inherently safer
design, and as for the second topic, that of
the importance of learning from previous
incidents, I'm going to leave that discussion
to my written presentation, which I'll make
available, and that I request be entered into
the official record of this meeting.

To conclude, I'd like to quote
from a letter that will be published in an
upcoming issue of the Journal of Process
Safety Progress. It's not confidential; it's
just an early view on the PSP website. This
letter was written by John Murphy, an
industrial practitioner and a well known
figure in the loss prevention community. John
writes:

"So why should chemical
engineering professors take the
time to teach the basics of hazard evaluation procedures and the concept of inherent safety to undergraduates? For those of us who have spent our careers in process safety, the answer is obvious: to prevent future catastrophic process safety incidents that will result in fatalities, injuries, property damage, business interruption, and loss of respect from the chemical industry stakeholders.

Well, I can tell you that I agree with John. In fact, he very nicely describes why I do what I do as a chemical engineering professor, and what people like me in this profession do. I would suggest, though, that if there is an obligation for people like me to educate the next generation of engineers in matters of inherently safer design, an equally strong argument can be made for the obligation
on industry to implement inherently safer
design principles to the greatest extent
reasonably practicable.

Thank you, Mr. Chairman.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank
you very much, Professor.

Our next speaker is Mr. Randy
Sawyer from Contra Costa County. He's the
Chief Environmental Health and Hazardous
Materials Officer. Mr. Sawyer?

MR. SAWYER: Chairman Moure-Eraso
and Honorable Members of the Board, thank you
for inviting me to participate in today's
hearing.

The Chemical Safety Board
investigators have been very thorough and
professional in their investigations, and it's
been really good to work with them in their
process, and we appreciate the work they've
done.

I know our Board and the City of
Richmond was eager to see the recommendations come forward, especially on how we could improve the industrial safety ordinance. The Contra Costa County Hazardous Materials Program administers the Contra Costa County and the City of Richmond's industrial safety ordinance. The industrial safety ordinance expands the requirements of the federal and state OSHA process safety management and the EPA and state accidental release prevention programs.

The industrial safety ordinance covers all of the processes at a facility, and requires that facility to submit its safety plan, address human factors issues beyond what is required under process safety management and the risk management program, determine the root cause or root causes of an incident, consider inherently safer systems, perform management of organizational changes, perform safety culture assessments, and perform security vulnerability assessments.
There are four engineers and engineering supervisors who work on the County's accidental release prevention programs. That includes the California Accidental Release Prevention Program and the Industrial Safety Ordinances. Engineers audit and inspect each of the facilities covered under these programs at least once every three years.

The Contra Costa Hazardous Materials Program has a hazardous materials response team that is a primary hazardous response team for the County. During the evening of August 6th, the hazardous materials response team responded to the refinery and to the surrounding community. The team took six air samples that evening, as well as direct monitoring reads.

The team also activated the hazardous materials operations center and worked with the media and the Health Services Department's public information officer on
getting the information about the incident out to the public, kept track of what the different teams were finding in the field and at the refinery, communicated with the County's health officer and worked with him on determining if the shelter in place could be lifted. The team also resounded sirens around the refinery every 30 minutes until the shelter in place was lifted.

One of the shortcomings of the response on August 6th was the telephone emergency notification system. The telephone emergency notification system makes telephone calls to the landlines in the area designated and to the cell phones that have been registered. Telephone calls that were initiated took far longer than expected during that evening.

The community warning system is operated through the County's Office of the Sheriff. Since the incident, the community warning system staff have contracted with a
new telephone emergency notification system
provider and is developing a test for a second
telephone emergency notification provider.
When that test is completed, if the second
provider is successful, that provider will
become the primary provider and the provider
that is now under contract will become the
backup provider.

Other changes that have occurred
since the fire with the community warning
system include that individuals can now not
only register their cell phones, they can be
able to state if they would like to receive
text messages and/or emails when an event
occurs in the area they have asked to be
notified about.

FEMA has a system that can send
text messages to all cell phones within the
County. Before the incident, the message
would be one message that would be based on
the type of incident. So for a hazardous
materials incident, the message would be
shelter in place, with no indication of where
the incident is occurring and what to do to
shelter in place successfully, and every cell
phone in the County would receive this
message.

Since the incident, FEMA is now
allowing customized messages, and the
community warning staff is able to tailor the
message to include where we are asking people
to shelter in place, and to have a link to a
webpage to get directions on how to shelter in
place. Social media, including Twitter and
Facebook, is also being used to push out
information about the incident. Another
change is that text, email and social media
messages would direct people and the media on
where to get additional information on the
incident, including a map that shows the area
where people are being asked to shelter in
place.

Finally, since the incident, the
community warning system has become a web
based system that can be accessed from anywhere by emergency response personnel. Most of these changes were already started before the incident.

One of the shortcomings from the response that is in the process of being addressed is a direct means to determine the amount of particulates that are in the air to assist in determining the impact of the smoke from a fire. The Hazardous Materials Program staff is working with the Bay Area Air Quality Management District on a means to do this on a real time basis.

As Supervisor Gioia mentioned earlier, the County Hazardous Materials Program is contracting with a third party consultant to perform a safety inspection audit of the Richmond refinery. The process will include an oversight committee made up of community members representing United Steel Workers Local 5, the Building Trades Union, Contra Costa Health Services, and the City of
Richmond.

The safety inspection audit will look at the safety culture of the refinery, the management systems that are in place to implement process safety and the human factors within the refinery. The Hazardous Materials Program's staff is working with the facilities that are covered by the industrial safety ordinance within the City of Richmond and the County, and the United Steel Workers, on developing indicators or metrics on process safety that will give an overall indication of how healthy a process safety program a facility has in place and make some of these indicators public.

One of the issues that the Chemical Safety Board investigators have found to be a concern is the implementation of inherently safer systems. I believe the County's Board of Supervisors and the Richmond City Council will adopt the recommendations made by the Chemical Safety Board into their
ordinance. I believe that the recommendations will improve the safety of the facilities covered by the ordinance.

I do caution what the Chemical Safety Board considers inherently safer. In my experience, if a very clear definition of inherent safety is not followed, then anything that may improve safety will be considered inherently safer, including improving procedures or adding relief devices.

The Chemical Safety Board investigation report on public safety at oil and gas storage facilities states that passive and active means to prevent accidents, such as internal loading roofs, pressure vacuum relief valves, flame arrestors and vapor recovery systems are inherently safer tank designs.

These active and passive mitigations do reduce the likelihood of an accident -- and are pretty good risk reduction measures -- from occurring, but does not decrease the hazard, and these mitigations add
layers of protection but are not inherently safer designs.

The Center for Chemical Process Safety Inherently Safer Chemical Process Lifecycle, Second Edition, Book defines inherent safety as a concept and approach to safety that focuses on eliminating or reducing the hazards associated with a set of conditions. A chemical manufacturing process is inherently safer if it reduces or eliminates the hazard associated with materials and operations using a process, and the reduction or elimination is permanent and inseparable.

The process of identifying and implementing inherent safety is a specific concept called inherently safer design. A process that will reduce hazard is described as inherently safer compared to a process with only passive, active or procedural controls. By improving the materials and construction of piping, or of equipment that is more resistant
to corrosion, is a passive and a good means,
and should be done, of reducing risk of
release, but does not reduce the overall
hazard, and as such that is not considered
inherently safer.

Contra Costa Hazardous Materials
do include passive means to reduce the overall
risk as a part of inherently safer systems
review, specifically where the passive means
reduces the possibility of release impacting
the public. This includes moving the
processing and storage of the chemicals
further away from the community. It also
could include the design of equipment and
piping such that the equipment and piping
could not be overpressured where a loss of
containment would occur.

But overall, I think the thought
process that goes behind implementing
inherently safer systems can be used for all
different management strategies, including
passive, active and procedural, and should be
used.

The County guidance states that facilities should use an inherent safety way of considering how to handle mitigations, or use the different strategies of minimize, substitute, moderate and simplify, and to move up the risk management strategies from the lower level of procedure all the way up to the inherent safety risk management strategy.

I believe this process could also be used in the MOC process and recommendations from audit results, or from incident investigations. I think it could be used for any mitigations that come about through the process, and especially for new facilities or modified facilities it should be considered that way, too.

It's really a different way of thinking than just the way many engineers -- and I can speak because I've been an engineer, a project engineer, and stuff -- were thinking in the past. It's a different way of
thinking, and I think it's a pretty good way
of thinking, and it should be implemented.

Again, I thank you for allowing me
to testify today.

(Appplause.)

CHAIRPERSON MOURE-ERASO: Thank
you very much, Randy. We appreciate your
work.

Our next speaker is Tupper Hull,
from the Western States Petroleum Association.

Mr. Hull?

MR. HULL: Mr. Chairman and
Members of the Board, we are very appreciative
of the invitation you extended for us to
address the Board tonight on an industrywide
perspective on safety. By way of background,
our association represents the major
integrated oil companies, as well as
independent produces and refiners in the
Western United States, certainly including
California as well.

Notwithstanding the reason we are
here tonight, I want to communicate that safety is an extraordinarily high top priority of refiners in California. Protecting the safety of employees, communities and the environment receive an extraordinary amount of attention and resources within the refining community, because everyone is harmed by accidents. The goal of their operations is zero accidents.

We're here tonight because that goal was not met and has not been met, but it still remains the overarching objective and the focus of the companies that operate refineries in California, and the men and women who work in those facilities. We understand, and the industry understands, that when accidents occur it is vital to undertake a thorough and impartial review of what went wrong, and what can be done to ensure that it won't happen again.

Our members currently are working closely with the California Division of
Industrial Relations, the Governor's Refinery Task Force, and other agencies to review safety practices and responses in California. That review and assessment is being conducted in a very thorough and thoughtful manner, and any gaps or deficiencies that are identified by that process will carefully be considered, and very likely incorporated into refinery operations.

And certainly, refineries will also carefully review and consider the recommendations that you have made and will make in your final report, and our association will facilitate that consideration.

As was noted, last Friday, April 12th, Chevron released its report on the incident. And I think it's worth noting that much of what was contained in that report is in agreement with the Chemical Safety Board's report, and it outlined the very vigorous steps Chevron undertook and continues to undertake to implement changes within its
global refining system and other operations worldwide.

This type of response is an example of the priority refineries place on safety, and of their commitment to identify areas needing improvement and quickly implementing changes to address those areas, and sharing their conclusions with other refiners, regulators and the public.

The one area that I did want to just touch upon, which has not been addressed here, and gets to an issue of transparency and information sharing, is the area of risk management plans, which all refineries, in California and elsewhere, prepare, that look exhaustively at the risks present in the refineries and develop plans for response which are then shared with the local governments. That is an area where the refiners feel a lot of attention is paid and those plans have proved very effective.

And with that, I just would like
to thank you again for the opportunity to speak to you this evening. Thank you.

CHAIRPERSON MOURE-ERASO: Thank you very much, Mr. Hull.

The next person that is addressing us is Mr. Mike Smith, the safety representative of the United Steel Workers Local 5. Mr. Smith?

MR. SMITH: Hello. Thank you for the opportunity to speak as part of this panel. USW Local 5 would like to thank the CSB for coming out and doing the investigation. While here, the investigation team has been great, and the interim report is a sign of how hard they have worked and how deep they have dug into this incident. We look forward to the final report, as well as the recommendations to follow. We as workers rely on that depth to find all root causes which, identified and corrected, lead to a safer workplace and community that surrounds it.
We support the recommendations presented this evening. We believe that there are City, County and State laws that are in place, that can be enforced as well as strengthened to prevent these types of incidents from happening. The current environment, one which relies too heavily on the industry or API making its own rules and then failing to follow those rules, is not working. Strengthening the oversight on the refining sector is a must.

(Applause.)

MR. SMITH: This is not just a Chevron Richmond issue. Local 5 also represents workers at the Shell and Tesoro refineries here in the Bay Area. We want to stress that this is an industrywide problem.

(Applause.)

MR. SMITH: These management system failures are present at all refineries across California.

(Applause.)
MR. SMITH: We also support and appreciate the local legislators, such as Assemblymember Skinner, Congressman Miller, Senators Hancock and DeSaulnier, in their quest to improve refinery safety. We are hoping that these recommendations are taken seriously by all parties and that we can learn from this incident. We look forward to working with industry, legislators and the community to get to a better place.

Thank you.

(Appplause.)

CHAIRPERSON MOURE-ERASO: Thank you very much, Mr. Smith.

Our next speaker is Mr. Ron Espinoza. He's the subdirector of District 1 of the United Steel Workers International Union. Mr. Espinoza?

MR. ESPINOZA: Thank you. I appreciate the opportunity to speak.

I have worked in this industry for over 25 years, and then I went to work for the
international union. Through those years, and 
every year, you hear of deaths from employees: 
explorations, injuries, that continue to happen 
in an industry that prides themselves on 
safety.

I want to talk for a second about 
API 754, Leading and Lagging Indicators. We 
do not think that it, as it is currently, is 
adequate. It needs worker and regulator 
participation, and community participation 
with industry in identifying these indicators. 

(Applause.)

MR. ESPINOZA: And what I would 
like to say, and I'm listening to everyone on 
this panel, and I certainly don't feel quite 
as capable as they are, but I want to talk 
about the fact that we call on Chevron to lead 
in setting a premier standard for 
environmental and safety excellence. And in 
the refinery manufacturing that they do, for 
too long that has not occurred, and we want 
them to put an end to the lagging that has
happened in the past.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you, Mr. Espinoza.

Our next speaker is Greg Karras, who is the senior scientist of the Communities for a Better Environment. Mr. Karras?

(Applause.)

MR. KARRAS: Thank you, Mr. Chair. I've submitted written testimony. I will summarize it to be brief. And I have two slides to show.

Thank you for including community expertise on this panel. I have 30 years practical experience in pollution prevention engineering and industrial environmental investigation, focused in the energy sector and oil refining in particular. I've published peer-reviewed work, and have the honor to work with the disproportionately impacted, deeply motivated and highly organized communities of Richmond and West
Contra Costa County.

I believe the findings of your
draft interim report and strongly support,
more than support, each of your
recommendations. CBE believes each
recommendation is urgently needed, and
respectfully urges you to adopt all of them
tonight.

However, I hope you will consider
two additional actions. First, your interim
findings, we believe, support an urgent need
to require inherently safer systems based on
a hierarchy of controls at the Richmond
refinery. Additional evidence from Chevron's
post-incident repair permits -- and I'm
summarizing this chart -- further supports
this urgent need. Note, if you can see them,
points 1, 2 and 12 in this chart. There are
20 points of known publicly disclosed
corrosion damage in the crude unit as of last
year, before Chevron repaired it, and these
are from Chevron's data.
Point 1 indicates the four sidecut pipe section that failed in this incident, where your findings demonstrate that an inherently hazardous combination of more corrosive feed stock and less corrosion resistant pipe metal that was involved in this incident was, at best, extremely difficult to manage.

Points 2 and 12 indicate sections of atmospheric overhead piping where Chevron reported finding internal corrosion pitting severe enough to indicate -- now, this is piping that was damaged in the fire, and cut out and removed, and only then was it inspected thoroughly and internally. Apparently, only then could it be inspected for this kind of internal pitting damage.

Each of these pipes, according to Chevron's documents, the internal corrosion was severe enough to indicate a potential failure risk before the next scheduled turnaround. Had the fire not occurred because
of one pipe in this area, this one small area
of the refinery, it might have occurred from
at least two others soon.

And this is an example in a small
part of a refinery with thousands of miles of
piping and thousands of pieces of equipment,
where there were a few places, at least three
before this incident occurred, that were a big
hazard apparently. And two of them may have
been not just extremely difficult, but
impossible to completely safely manage.

So the point here is that there is
an urgent need, at least at this refinery, and
we believe industrywide, for your inherent
safety recommendation. I'd like you to
consider, tonight, classifying it as urgent.

Second, in your ongoing
investigation and final report on this
incident, I hope you will consider completing
your analysis on material input substitution.
The second slide shows evidence for this. It
shows the increase from 1989 to the incident
last year in -- the black is the -- well, I'll
start with the red. That's sulfur content, or
the percentage increase in sulfur content, in
the crude oil. Black is in the gas oil
derived from the crude. And the gray
background that starts to disappear as you
move towards the right of the chart, that
depicts your own staff's findings on the data
of the corrosion of the pipe wall of the four
cut pipe section that failed.

As sulfur increased in the crude,
it increased in the gas oil distilled from
that crude and running through the pipe, and
sulfitic corrosion began to thin the wall of
the pipe more than four times faster than
before that dramatic sulfur increase around

Thus Chevron's feed stock switch
played a key role in this incident. The
material input substitution, technical term
for this causal factor, is central to inherent
safety and is at or near the top of pollution
prevention safety hierarchies of controls. And this evidence demonstrates specifically for this incident what I think is a universally applicable principle, that feed stock quality must be considered if we hope to drive catastrophic incident risk as low as reasonable possible.

Now, in case you've heard from what I've heard from the industry, at least informally, that "Oh, no, we can't even talk about changing our crude, because the only choice is to close all the refineries and take everyone's jobs and devastate the economy," I want to say a couple words about that.

First, the idea that we can't even investigate this because something terrible will happen is like saying the world is flat. "If we go check out whether that's true, we'll fall off the edge, so don't even investigate it," right?

In my opinion, if the industry really believed that it would have no reason
for calling cheaper, lower quality refinery
feed stock, quote "opportunity crudes," close
quote. Instead, a more reasonable analysis
and a more holistic one would look at the
substantial evidence that preventing
catastrophic climate change may, in fact,
require leaving about half of currently
recoverable known reserves in the earth.

And that raises a question that we
in this community have been raising explicitly
and repeatedly: Why not refine the least
polluting and least hazardous part of what's
left?

(Applause.)

MR. KARRAS: So why is this
important? You know, flat world theories
didn't stop us before. We investigated.
Among other things, Columbus discovered the
New World. And when Bay Area refineries
claimed that it would be so unsafe that they
would just blow up if we controlled their
flaring, we investigated, workers and
communities together.

And we ended up with a finding

that by preventing unnecessary flaring, we

would make refineries safer. And now we have,

since 2005, the first comprehensive flare

prevention rule in the country, which is

spreading nationwide. Workers and communities

did it here together because we stood up to

and investigated, in that case, the concern

that the refinery would blow up instead of

shut down.

Now we're finding, here and also

in the L.A. area, communities and labor

leaders are finding that we should be -- and

we're beginning to -- work more closely

together than ever. We're stronger together,

and we believe that will be necessary to,

among other things, get the CSB's

recommendations implemented here.

But we can't duck. If we're going

to do that, and build trust among communities

and workers, we cannot duck the crude quality
issue. It's coming here to us. It has come here to us, and it's not gone. Help us by standing with us and saying "Let's check it out. Let's talk about it. Let's have a public discussion."

(Applause.)

MR. KARRAS: In my opinion, in its ongoing investigation and final report regarding this incident, the Chemical Safety Board should consider completing its analysis of inherently safer chemical inputs for refineries.

(Applause.)

MR. KARRAS: Thank you.

CHAIRPERSON MOURE-ERASO: Thank you very much, Mr. Karras. We appreciate it.

The next person that we have addressing the meeting today is Doctor Mike Wilson, who is the director of the Labor Occupational Health Program of the University of California in Berkeley. Dr. Wilson?

DR. WILSON: Doctor Chairman and
Members of the Board, thank you for the opportunity to provide some brief remarks this evening. And again, thank you for your thorough and, I think, far-reaching report.

Our program, the Labor Occupational Health Program, is part of the Center for Occupational and Environmental Health at U.C. Berkeley that was established 30 years ago by the Legislature to engage the University in health and environmental problems facing the State of California. This is certainly one of them.

In studying your report, and in hearing from labor, community, and emergency services stakeholders on behalf of the Governor's Refinery Task Force over the last several months, I would like to convey one overarching point in my comments this evening, which we've heard actually many times. And that is that we have before us, I think, convincing evidence that California and the nation are in imminent need of a modern,
fully-funded comprehensive regulatory framework to oversee the refinery industry.

(Appplause.)

DR. WILSON: You have presented evidence here that that framework would be most effective if it motivated investment by the industry in doing three things in order.

First, characterizing and publicly reporting on the nature of sulfidation corrosion damage throughout the industry.

Second, rebuilding major sections of our refineries using inherently safer, more energy-efficient technologies that are readily available. And three, integrating continuous improvements in plant safety into the core business operations of the refineries.

Your report, I think, has provided the factual justification for California to develop such a regulatory framework. You've done this by demonstrating convincingly that, first, we have a corrosion problem in this industry that I believe is imminent, and that
that problem presents an imminent threat to public safety because management, at least at Chevron, has largely chosen to ignore that problem despite 10 years of urgent and repeated warnings from Chevron's own technical personnel, from the United Steel Workers Union, and I would add from the Communities for a Better Environment. Meanwhile, major sulfidation failure incidents have continued to occur regularly at Chevron facilities in California, Utah, Texas and Mississippi.

You've pointed out that we have a physical engineering problem in the industry, but of even greater concern is that you've shined a light on a deeper cultural problem in the industry's management, and on that I would point out that since August 6th and up until January 15th, where we have the data, the State's refineries have experienced another 41 less publicized upset events that include fires, spills, accidental releases and others, some of which endangered workers and members
of the public.

I would suggest to you that Chevron's management, and most likely that of the other refineries in the State, based on the evidence, is responding as a rational economic actor to the legal framework in which it operates. That framework, as we've heard this evening, and as you've characterized in your report, at present is overly permissive. It requires very little, if any, genuine transparency or accountability to the public. It doesn't engage the expertise of workers or the community, nor does it motivate the kinds of investments that are needed to apply inherently safer technologies.

In a more rigorous regulatory framework, I would expect that Chevron's management would begin to respond in a timely and competent way to the safety problems that are identified by their own personnel, by the steel workers, and by the community. Your report touched on the importance of
transparency, on accountability and meaningful worker and community engagement as key elements of a comprehensive regulatory framework, and I would say that those elements need to develop in concert with each other.

We know that transparency alone is not enough, and that safety performance needs to be required, not simply encouraged, as you have articulated. I would argue, however, that transparency is a good place to start. It raises the stakes for poor management. It makes regulatory oversight more effective, as we heard from Chief Widess of Cal OSHA, and it sets the bar for industry. It puts pressure on the laggards, and it allows the best performing companies to make their successes public.

I would point out that transforming industrial sectors is not new to California. As a single example, over the last 40 years California's per capita electricity use is now 50 percent compared to
that of the rest of the U.S. The California Energy Commission reports that that flattened trajectory over the last 40 years has prevented the construction of 25 coal-fired power plants in the midwest.

That is the result of California regulations, of incentives, of manufacturing specifications over many years, along with other government actions. And I think we are fully capable of embarking on a similar trajectory, a much more rapid trajectory, in the refinery industry. And as Chairman Moure-Eraso noted in his opening remarks, build a regulatory program that could serve as a national model.

I'll close by saying that ensuring industrial safety in dangerous industries is a basic and necessary function of government, and doing so requires government to assert the full force of its regulatory authority.

(Applause.)

DR. WILSON: We have seen in
multiple settings that doing so in nearly all
cases also improves the efficiency and
competitiveness of the effective industry. So
again, I want to thank you for your work, and
for your presentations tonight, and for your
professionalism.

(Appause.)

CHAIRPERSON MOURE-ERASO: Thank
you very much, Doctor Wilson. In the
interests of time, I think we would like to
move directly to public comments. I would
like to ask that this be moderated by the CSB
Managing Director, Doctor Horowitz, who has
been coordinating and managing the CSB
investigations, specifically this
investigation of Chevron. So I'm going to ask
him to basically moderate the public comment.
So, Doctor Horowitz.

DR. HOROWITZ: Thank you, Mr.
Chairman. We ask our commenters to adhere to
a limit of one minute each, please, in the
interests of time.
PARTICIPANT: What the hell, man?
We've got to sit here all night?

DR. HOROWITZ: All right. Well, we'll do the best we can. We'll see if we have everybody. Who's here? And the first commenter is Doctor Henry Clark. Doctor Clark, are you here?

(Applause.)

DR. CLARK: Thank you. Doctor Henry Clark, Executive Director of the West County Toxics Coalition that works with communities living with refineries from Richmond to Texas, Louisiana, Nigeria, Africa, internationally. So we know these issues and problems.

I live in North Richmond, next to the Chevron refinery, on the front line of the chemical assault as we say, some of the problems, experiences, that people experienced with this August the 6th fire, and you heard our Supervisor John Gioia mention.

Well, I was born and raised next
to the refinery. I can remember clearly the flaring situation that Greg Karras referred to. Those energy waves from the flares would hit my house and my community and rock our houses like we were caught in an earthquake. Going back to 1991, we were engulfed in black toxic smoke for an entire week over the North Richmond community, which is primarily Afro-Americans and Latinos.

Now, if you don't understand what environmental justice is all about, then you're really not going to come to totally the right conclusions. Environmental justice, or environmental justice, environmental racism -- President Clinton signed an Executive Order, 12898, on environmental justice, which most of the laws, city and state laws, about these issues are based on, basically saying that nobody, no people, regardless of race, class or whatever, should bear a disproportionate impact from environmental policies and so forth.
Well, the fact is, is that it's a little too late, because we are already disproportionately impacted. We are already overburdened.

(Applause.)

DR. CLARK: And so to protect us now, you have to take some serious actions. And all of these measures that you're talking about, inherently safer processes, and this and that? Well, I can remember, and Greg Karras from CBE can remember this. Over about 30 years ago, we made some recommendations, similar recommendations to the refinery and the industry, pretty much saying the same things that you're saying today, here. Okay?

(Applause.)

DR. CLARK: Saying pretty much the same thing. But you know, they weren't listened to. And so the bottom line is this, here. It's that you can have all of these recommendations, which is all good, you know. But it sounded like anything, any laws, or
scripture, or whatever, that says some great
tings, but they mean nothing if you don't put
them into practice.

(Applause.)

DR. CLARK: And that's the main
thing right, that industry has not put these
measures into practice. Why? Because of the
fact that -- it was said -- there's no
punishment behind it. A few dollars for a
fine and penalty out of a company that's
making billions of dollars? Come on, now.

(Applause.)

DR. CLARK: You know, this issue
has been going on for a very long time. Yes,
the industry, Chevron and all the rest of
them, say that "Yeah, workers have the
authority to shut down a unit if they see it's
problematic." Sure, that may be in theory.
But that doesn't happen, because those workers
know that the company's main concern and
bottom line is making those profits. And just
like in this case here, that you see, that the
workers knew about it and could have closed it down, but they didn't, because they know that management was not going to like that.

So we need to get serious, period, about holding these companies accountable. And a few pennies is not going to get to the issues right here.

(Applause.)

DR. CLARK: These companies like Chevron and many others, they want to be considered to have some personhood. Well, if they want to be a person, then send them to jail when they violate the law, just like anybody else.

(Applause.)

DR. CLARK: Then you'll have some real accountability. And like Mr. Karras said, it's that you need to consider the type of oil, or the product that's being processed in that refinery. Because we sounded the alarm a long time ago about that. We sounded the alarm when Chevron was proposing their
reformulated fuel project. We told them about the higher sulfur content. They denied it, and said they weren't using it, didn't plan to use it. But we come to find out, the cat is out of the sack now, they were already using it.

So we need to get serious. We're talking about life and death issues here, period. You need to put that in the mix. You need to consider that in the context of environmental justice, these companies like Chevron, they are already violating the spirit and the principles of Executive Order 12898. You need to hold them accountable, because they are killing people, period, and making people sick.

(Applause.)

DR. CLARK: And we're not going to take it no more, and we want our City and County officials to have some backbone. You can close down liquor stores in our community when they're posing a threat or a nuisance.
Why can you have this authority with the small businesses, but when it comes to these big companies you can't do nothing about them? You can't hold them accountable to the law? It's because they have bigger dollars, huh? Is it because they buy politicians like you heard before?

The same thing that communities are saying with the Keystone Pipeline, that you're going to have problems with destroying Native American land and polluting those communities that we work with in the Houston area and Louisiana.

Because the bottom line is, is that what that's all about, just like here, is corporate control over politicians, like the Koch Brothers that you've heard about that own refineries in the Houston area, and they're paying 100 dollars a barrel now for oil from Venezuela, and they could get the oil for 25 dollars a barrel from this dirty crude oil coming from Alberta, Canada and other places.
So you know, the cat is out of the bag. When you want to be serious, you include those recommendations that Greg Karras mentioned about the crude, and really protect our communities. Otherwise, you know, it's just another dog and pony show.

(Applause.)

CHAIRPERSON MOURE-ERASO: Thank you very much.

DR. HOROWITZ: All right. Thank you. Next is Mr. Kim Nibarger of the United Steel Workers.

MR. NIBARGER: Good evening. My name's Kim Nibarger, and I'm a health and safety specialist for United Steel Workers, and I will abbreviate my comments in light of the time.

First, we don't view this as a Chevron problem. It's an industry problem. Second, the broken widget, the sulfidation corrosion of the pipe, is a long-known problem in the refining industry, as you pointed out
in your report. The problems allowing this event to happen seem to be underlying in nearly every refinery in the country.

We need to identify not just the cause, but what allowed these events to happen. If we recall the report that the Chemical Safety Board did on the Texas City BP refinery, we will find numerous of those events also took place in this accident.

It appears from your report that a number of people tried to alert Chevron to the fact that this pipe needed to fall under increased scrutiny or have the metallurgy upgraded. Although a management of change process was completed for the initial crudes containing higher sulfur content, it does not appear that a question of concern about increased corrosion over time from the use of a higher sulfur crude was raised or addressed. More recommendations were made, from 100 percent component inspection to replacing the line, all rejected by Chevron management.
This is the same as operators raising the issue of shutting the unit down when the leak was first discovered, and being overruled by Chevron management. We often hear of, and speak about, safety culture. But as you can see from these examples, it does no good to have the authority without the power. A safety culture works when there is a harmonious environment. It does not work where one entity holds the power over the other participants.

Currently, the process safety management standard governing oil refineries says that its purpose is to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals. Really, all it requires you to do is develop a written plan on how you will meet the element challenges in the standard.

There is nothing requiring you to do it well, or to really define what you
intend to accomplish, so meeting the
requirement of the standard, having a written
plan and following it, may serve no benefit
other than to avoid penalties. If you are
following your plan even though it is a poor
plan, you have done nothing wrong, or at least
citable, in the eyes of the regulators.

Unless the regulator is well
versed in process safety, they may not
recognize how poor the plan is or what RAGAGEP
for a particular operation or equipment may
be. Even if they do, it's not a violation of
the standard. It's not enforceable to require
an employer to develop and follow an effective
plan.

It would really make the standard
more productive if employers were required to
comply with a level based on described,
recognized and generally accepted good
engineering practices, RAGAGEP, to ensure that
operating risks were as low as reasonably
practicable, ALARP -- and we've heard a lot of
talk about that tonight -- and hazards are identified and eliminated or mitigated. When the practice improves, the plan improves to meet the current practice.

But it must be mandatory. It must be regulated. It cannot be undefined in any way, or it will not get done. It also needs to be transparent with employee involvement, regulated, enforced participation, not the consult language that's in the standard now.

The Norwegian Petroleum Safety Authority, the PSA, has a safety case in place, and they have had it in place since the mid-1970s. This tripartite model of industry, regulator, and union share authority in making decisions that govern the safety of the offshore oil industry. They also require that risk must be managed to ALARP.

It's time for us to stop trying to tweak a standard that is not working as it was intended, or at least hoped. It's time for a system overhaul, and that will require
regulator, labor and industry working together. It will require involving the communities around these facilities. It will require a true commitment to make the industry safer, not just different.

You have the ability to fund this through the language in the California Labor Code 7870. You just need to have the Legislature approve the expenditures from the fees that will be put into place, or can be put into place, from this practice.

We encourage and welcome the opportunity to work toward that change, and we also look forward to the final version of the report including the follow-up elements highlighted at the end of this report.

Thank you.

(Appause.)

DR. HOROWITZ: Thank you, Mr. Nibarger. Next is Andre Soto.

MR. SOTO: Good evening, Members of the Board, as well as the staff, for coming
out here to our community in Richmond. It's really been critical to our community that you have been here, because much of what you've heard tonight are that we in the community have known or suspected much of this stuff for many years.

But you have finally shined a light on it with incontrovertible evidence that Chevron is not a good actor in our community. They're not taking care of this refinery. They're running it into the ground. They're putting workers at risk. They're putting the community at risk. And at the same time, they're corrupting our politics and trying to buy off individuals in the community and non-profits in our community by spreading around cash. And we all know. All those of us who live in the community know this.

But what I really wanted to thank you about is some of the recommendations you've already started to provide for us. Because you're providing a light on the path
that we as a community need to take to hold
our elected officials accountable and
implement these kind of changes. Because the
failure to implement these changes means our
community is going to continue to be at risk.

As we speak here right now, we are
at risk because of all those clamps out there.
You've heard tonight all the citations of Cal
OSHA. Chevron is appealing all these, and
it's expected to take four years before they
make any of these changes recommended. So you
know, I want to thank you publicly, and I look
forward to your final report.

But more importantly, it's really
that this incident has brought you guys here.
It's brought the panelists, all the interests
and the panelists, including the workers and
the community, together, and that's how we're
going to really solve this problem. And I
think that one of the things that really give
me a lot of pride from being here in Richmond
is that, because of the pains that we have
suffered for 100 years by being next to this refinery, we are on the front lines of trying to change the way refineries operate, the way refineries are regulated, and empower communities and the people, and not just cave in to corporate power.

You guys are helping us to get there, so thank you very much.

(Appplause.)


MS. LAPPE: Thank you. I appreciate all of the information that the CSB and Cal OSHA and the other members here have given to the community. My concern is what is going to happen to our health.

We now know in the community, we're distributing a paper on dioxin, which is one of the severe chemicals that was emitted from this fire. I myself had cataracts that did not need surgery for four years until I came in contact with this cloud, with these
particulates of crude oil.

I've had two surgeries, and yes I have better eyes, but how long they'll last me, I don't know. I've had stomach problems. I know many people in the area -- I know my blood pressure went sky high, my 14 year old grandson had high blood pressure after contact with this cloud.

There's a lot the community does not know about our physical well-being. We're hearing so much about Chevron. We're hearing about how they're going to be fined, and how they're going to change, and this and that, but we're not hearing about our health. We're not hearing about where we can go to get all the help that we need.

The doctors didn't really help us in this thing. I do know that Kaiser is backed by Chevron, and those doctors did not really want to help us. Many of us that I've talked to -- and I've talked to hundreds of people in this community, and we did not get
the care that we really, really needed. This is what the community needs to hear.

What can you do to help us now?

Yes, we can fix the pipeline. Yes, we can put regulations and regulatory committees out there. But what is going to happen to the people of Richmond and the people that were underneath this massive cloud that reached all the way to Livermore? There's more people affected in this thing than you can imagine.

There are still people coming forward now that don't even realize what's going on in our bodies.

(Applause.)

MS. LAPPE: They have these blood pressure and cholesterol things. Some are developing cancers already because they had preexisting conditions. We've got to hear, in the community, what can you do to help us?

What can you do now, CSB and Cal OSHA, to set in place either clinics or someplace where we can get the absolute help that we need?
Because I've been told by my own doctor, when I finally got to see him, that I'm going to die in less than 30 years, probably, from cancer, but there's nothing in this cloud that is going to affect me or hurt me.

Kaiser told us, not from the beginning of this thing but three weeks into it, they distributed a paper into the community: "These chemicals will only last for 24 hours in your body." Twenty-four hours. They sent that paper out three weeks later. What did that do to me? It put me at a big risk. It put my faith in my own doctors at risk.

My own doctor did not even want to see me for almost two to three weeks. When I went to the emergency room at Kaiser, they told me "Your blood pressure is elevated." They signed a paper and sent me out. I needed a breathing treatment that I couldn't get. I was told a week later by the allergy
department at Kaiser "Did they give you a
treatment, Robin?" And I said "No." She said
"Your breathing is down by two thirds." She
said "I'm amazed that you're still up and
walking."

I've had swollen vocal cords from
this. I was an avid singer. I can't sing
now. If I wanted to, I can't. Because I can
do maybe one song, and that's it. There goes
whatever I had. It's heartwrenching to me.
It's heartwrenching that my health has been so
affected, and the community has been so
affected by this.

I plead with the CSB and with Cal
OSHA, and anybody involved in this, do
something more for us, for the community, to
help us understand the dioxin chemical and the
things that we're going through ever since
we've come in contact with this.

Thank you so much.

(Appause.)

DR. HOROWITZ: Thank you. Dorothy
Wigmore?

MS. WIGMORE: So my name's Dorothy Wigmore. I'm here representing an organization called Worksafe, which is a non-profit advocacy group that speaks on behalf of and with and in coalition with workers and community groups around occupational health and safety issues.

And in the training that I've had as what they call an occupational hygienist, as well as an ergonomist, I've learned a variety of things that take me back, perhaps, to my interest in books. And that is, I pay attention to history.

And I happen to have in my hand a little booklet called Our Lives Are At Stake: Workers Fight For Health And Safety from the Shell strike of 1973. And I'd like to read you two things that are in there, and we're using them in our workers' Memorial Day report this year, at least this one quote.

Remember, this is from 1973, and
it's about a different refinery, but it's a refinery in this part of the world. And a worker says:

"They run the plant until it falls apart. They operate on the theory of running the calculated risk. By calculated risk, they mean that they will run a unit until it falls apart, then repair it fast. This is cheaper to do every six months or three months than preventive maintenance. And they also run the risk of shortmanning units, not having enough men" -- because usually it's men -- "on a unit to operate it properly, but just enough so that they can correct an upset condition without going off-specification. They feel they can run with fewer people."

And in the paragraph below that,
they refer to a January 1968 explosion at another Shell Chemical plant in Texas, where the investigation revealed that the pipe carrying sulfuric acid and -- this should probably be polypropylene. It doesn't have the right word here -- under 450 pounds of pressure per square inch had been allowed to corrode to the point that its walls were as thin as beer cans.

I want to make a number of points here that are linked, and the first is this was no accident, from everything I've heard. And in fact, I would urge the Board to be very careful about the language that it's using. I hear the word "risk" used when we're really talking about hazards. I hear the word "control" used when we're really talking about prevention.

And as an occupational hygienist -- I may have a falling out with some of my colleagues on this -- I don't use the term hierarchy of controls. I talk about
prevention, because it gets to the hazard. If you're controlling something, it means the hazard is still there. And if we're really going to deal with some of the issues that have come up here, I think the Board has to start making sure that it's using the word "prevention" more than I saw it in the document from the quick look that I've had at it.

The second thing that I wanted to say is that, in going back to the history stuff, what's happening here is not unique to Chevron. It's not unique to refineries. It's something that, in my almost 35 years of occupational health and safety work, is something that I hear all the time: preventive maintenance isn't done. You keep the line working despite whatever the hazards are, and you ignore the warnings and the advice of the people who know most, the workers on the job. It also combines with what I have unfortunately come to see as a real arrogance.
of managers and industry. And I think that's part of what we've heard about in the report here.

I would suggest that the Board, in the report that it puts together, particularly for the final report, that it looks at some of the history of these kinds of things. It looks at things like the EPA report about the ExxonMobil Baton Rouge refinery which came out earlier this year. Exactly the same issues, inspections not done, and issues of thickness of the pipes. I think that that's important, both to build your case that something has to be done and to make it clear that this is at least an industry kind of issue, and not just something that has to do with one particular player in the field.

Thirdly, I would like you to -- in terms of paying more attention to prevention, I'd recommend a paper that we wrote, Prevention Pays, and I would recommend also that you look at what is called the Injury and
Illness Prevention Program regulation here.

With my experience on the Canadian side of the border, both in terms of writing regulations and enforcing them, it's great that California has an IIPP, but I recommend you look at some of the regulations about prevention programs in other jurisdictions. And I'd be happy to point you to some of them. One of them I helped to write, in Manitoba.

And one of the things that I think is missing is a requirement for evaluation.

But you might want to look at the California one itself, and see where -- and just, as I say, compare it with some others.

I would refer you, if you're going to do work around leading indicators and lagging indicators, it's a term that I've run across in meatpacking plants and discussions of ergonomics, and all kinds of other places.

They get used, but they don't get paid attention to. And I would recommend you look at the work of the Institute for Work and
Health in Ontario that's done a lot of good research around this.

I also recommend that, if you're going to use the term "as low as reasonably practicable," the original term is "so far as is reasonably practicable." It comes from the 1949 case of Edwards v. The National Coal Board in England. And I learned this in my occupational hygiene training, and it has a very specific legal meaning that I don't think you really appreciate, and I'm going to try and -- excuse me, can I ask you to -- as a former Dalhousie graduate, could I get someone to hold this for me? Because I can't talk and do the demonstration at the same time.

It won't hurt. Thank you.

DR. AMYOTTE: Dalhousie?

MS. WIGMORE: I'm a Dalhousie grad, 1972. Political Science.

So what "as low as reasonably practicable" means is that there has to be a gross disproportion between the hazard, and
the cost of the hazard, or the cost of the
problem, and the cost of fixing it. It cannot
be an even balancing that often is used. So
there has to be both a gross disproportion.
And the greater the hazard, the greater the
distance between the cost of fixing something
and the cost of leaving it as it is before it
is not reasonably practicable to do something.
It's an economic argument for fixing hazards.

So I would recommend that you look
at that. And as for safety culture, I would
recommend that you look at the work of Kaj
Frick, Michael Quinlan and Per Jensen, who
talk about occupational health and safety
management systems. I think that that is --
there is just as much disagreement about what
those are as there is about what a so-called
safety culture is, but I think that they're on
the right track in terms of looking at the
essential ingredients of these things.

And finally, I would suggest that
you look at the literature that says that
enforcement is actually what leads to change in terms of occupational health and safety in workplaces. And on that, I would refer you to the work of Emile Tompa, for one.

If the laws aren't -- and the other thing, I guess, is that the laws are great, but if the agencies that are supposed to be enforcing them either are not allowed to or are unable to enforce the law, the workers that rely on them and the communities that effectively rely on them won't be getting much satisfaction and won't be getting what they deserve. Cal OSHA needs resources to do this, not just for these hazards but for a lot of others.

(Applause.)

MS. WIGMORE: And I have one other note here. Oh, yes. In terms of worker participation, I recommend that you look at the model of committees, and where the joint health and safety committees have to get responses back from management about why
things are not being done within -- in
Manitoba, it's within 30 days. There have to
be reasons why, that kind of thing.

And there are other examples in
this country of links between joint health and
safety committees and community groups, and I
suggest you might want to look at New Jersey
as one place where that kind of thing has been
looked at.

My last question is -- these are
just off the top of my head based on what I've
heard, and I haven't really been able to read
the report.

DR. HOROWITZ: Thirty seconds,
ma'am, please.

MS. WIGMORE: I'm just asking, can
I submit written comments, and by when?

DR. HOROWITZ: Yes. Submit them -
-

MS. WIGMORE: By when?

DR. HOROWITZ: Any time you like.

You can send them right to me. I'll give you
my business card.

MS. WIGMORE: Okay. That's the best I can do at the moment.

DR. HOROWITZ: Thank you.

(Applause.)

DR. HOROWITZ: There are about 30 folks who are signed up, so I ask you to keep your comments as brief as possible. Next is Diane Bailey. Diane Bailey, are you here?

Diane Bailey is not here. Julia Max? Julia Max, are you here?

MS. MAY: May.

DR. HOROWITZ: Julia May, sorry.

MS. MAY: I'm Julia May. I'm one of CBE's senior scientists, and I want to thank you, because this investigation is the most excellent one I've seen in the 25 years of engineering analysis I've done in both Northern and Southern California, or across the country in other regions.

Thank you. Also thanks to the steel workers and the refinery firefighters
who are fighting to keep us all safe without
the support of Chevron corporation and the
other refineries. They deserve a lot of
credit.

(Applause.)

MS. MAY: I've worked for a number
of years, through the '90s, in the Bay Area.
Right now I'm working for CBE on Southern
California refineries, and I'm here to tell
you that our members in Southern California
are listening tonight to your hearing. This
is important to them, too. They're watching
on the web.

And the risks you've identified,
community members in Wilmington, where there
are five refineries and the highest
concentration of refineries in the State of
California, they're appalled at the risks that
you've identified and they have the same
problems that people are talking about here in
Richmond. They really want you to adopt this
report and support the communities statewide.
On inherently safer systems, in the Bay Area CBE and labor and the community members worked on many different inherently safer systems, including a phase-out of anhydrous ammonia at Chevron here in the early '90s. That's a familiar chemical nowadays with what happened in Texas. In Southern California, about 10 years later, a phase-out of anhydrous hydrogen fluoride, an unnecessary and deadly chemical.

So communities are fighting for very specific inherently safer systems, as well as the flare minimization that Greg talked about. Now we're seeing a backsliding. We're very concerned. We're hearing about a cutting of the trained workforce that is needed desperately right now to deal with the backlog of maintenance problems.

And we're also at the same time seeing, for example, Valero wants to bring, right now, tar sands crude oil into L.A. and the Bay Area by rail. We're not waiting for
the Keystone pipeline; they want to do it now. That could mean a doubling of sulfur content in the crude oil and an increase of the corrosion risk.

So I have those comments, and a couple of questions. I don't know if I may ask a question. If I cannot, then I'll just ask you to please take this into consideration.

Number one, has the Chemical Safety Board considered that, in addition to these imminent dangers, we're also facing, at any moment, major earthquakes in both the Bay Area and L.A.? You know, in your beautiful presentation, you were showing the poking of the pipe as a danger for those fragile, corroded pipes. Imminent earthquake danger makes this risk even more urgent.

Secondly, I would say that we wanted to know if you were considering requiring, as an inherently safer system, an increase of the workforce so that the steel
workers could deal with this backlog of maintenance problems, another imminent hazard.

(Applause.)

MS. MAY: Thank you very much.

(Applause.)

DR. HOROWITZ: Thank you. Joel

DR. HOROWITZ: Thank you. Joel Britton? Joel Britton?

Joel Britton? No. Mike Parker?

MR. PARKER: Good evening, ladies and gentlemen. My name's Mike Parker. I'm a member of the Richmond Progressive Alliance. I first wanted to thank the Board for bringing an incredible sense of hope to the community of Richmond.

For years, people in Richmond have struggled trying to improve the safety and health of the community, and particularly in dealing with the impact of Chevron, and have been met with a phalanx of experts hired by Chevron's money to tell us that we were wrong, that the refinery was run as safely as possible, that there was really nothing more
that could be done, and that people would
either have to accept the loss of jobs or they
would have to live with what they have. And
you've given the lie to that, and I want to
thank you.

I also want to thank you for your
introducing the notion of root cause analysis,
the idea that it isn't just enough to say
"Well, the pipe was corroded." We have to ask
"Why was the pipe corroded?" We have to ask
"Why wasn't the pipe replaced?" "Why didn't
Chevron figure out what to do before?" Et
cetera.

I think we have to apply, though,
the root cause analysis to other things that
affect this situation. So for example, we are
told that there are only seven OSHA inspectors
for 1,600 locations. Why is that? Did nobody
notice earlier that there were only seven OSHA
inspectors for 1,600 locations? Well, of
course people noticed, and of course nothing
ever got done.
Why is it that the City of Richmond allowed, for years, Chevron to do whatever it wanted to do at that refinery? And even recently, after this fire, Chevron decided on its own that it would rebuild the crude unit exactly the way it was using a 25 year old process, rather than listening to the community demands that, if they were going to rebuild that crude unit, it should be rebuilt to new, safer standards.

(Applause.)

MR. PARKER: Why could they get away with that? The reason that they could get away with that was because they intimidated the City under the law, saying that because they weren't changing the process the City only had ministerial powers, and if they tried to do anything else in terms of regulations of Chevron, and in terms of how it rebuilt this refinery, there might be a lawsuit.

And believe me, a Chevron lawsuit
is something for every city and county to fear. That's why regulations aren't enforced. The truth is that the reason that we don't have a strong OSHA, the reason that we don't have a city which is able to use the tools it has, is because Chevron spends millions, millions of dollars, buying politicians. They buy them in the City of Richmond, and they pay the money to support those politicians statewide and nationally who will underfund any regulatory agencies.

That's why. So let's use the root cause analysis and say if we're going to solve this problem, we also have to deal with the fact that Chevron has political and social power, and that the only way to counter that is to do the things that Mayor McLaughlin talked about, which is, we mobilize the community. We mobilize this nation to say that people must come first.

And if we don't do that, if we don't do that, then I'm afraid that all of
these excellent recommendations, which I fully support, by the Chemical Safety Board will essentially go the same way as the recommendations of those great Chevron engineers and workers who told Chevron "Hey, we got a problem here," and they chose to ignore them. These will end up getting ignored too, unless we attack the question of Chevron's political and social power.

Thank you.

(Applause.)

DR. HOROWITZ: Thank you. Andy Katz, are you here? Andy Katz?

MR. KATZ: Good evening, Board Members. My name is Andy Cats. I'm a clean air attorney for Breathe California. We're a lung health organization. And I want to thank you for the Chemical Safety Board's very serious and diligent response in investigating this incident and in presenting the community and government agencies with some very important recommendations.
I think what is very important about those recommendations is the emphasis on prevention, the emphasis on improving the culture of safety and introducing an improved culture of safety. And I'd like to comment about some of the most important aspects to improve prevention of future hazards.

I think corrosion audits and the urgency of those audits cannot be underemphasized. There has to be an increased, and very urgent, corrosion audit done at refineries. I think there's a very important need to ensure that these corrosion risks are found and fixed before another catastrophic incident occurs.

I think that we've heard a lot about the culture of safety and the problems around that. It's very important that workers be empowered to report what they see around them. Workers are on the front lines, and are in the best position to be able to report those incidents to their management and to Cal
OSHA, and there has to be a culture
industrywide to make sure that incidents are
reported before another catastrophic incident
occurs.

Likewise, that means that
emergency shutdowns have to be a part of that
ability, for workers to be able to report the
need to do emergency shutdowns, or be
empowered in the right protocols to be able to
institute those on their own with the right
protocols.

The deferred maintenance issues
are very serious, and like those corrosion
audits we need to have a direct responsibility
for implementing those.

Inherently safer technology has to
be required, and in that regard I commend the
Chemical Safety Board for recommending that
the industrial safety requirements be required
on both the local and state levels.

Finally, I want to commend the
Board for including feed stock in inherently
safer technology. Some of the data around
corrosion and the relationship between feed
stock is very, very informative about how to
prevent future incidents from occurring.

For recommending for the Chemical
Safety Board on how to direct some of these
interagency groups, I think the Chemical
Safety Board's recommendation about the
interagency collaboration, especially about
the role of Air Districts, is very vague. And
while the need for more OSHA inspectors is
very clear, the need for the Legislature to
take action to require inherently safer
technology, more direction is needed.

What happens when agencies come
together to collaborate? I urge the Chemical
Safety Board to spell out what that
collaboration looks like. What are the
deliverables? What are the outcomes? And how
is transparency improved from doing this?

Sometimes when agencies come
together in interagency working groups,
transparency gets lost because when they come out with a decision, they're not reporting in the normal process. How will interagency collaboration improve transparency rather than obfuscate it? So I'd encourage the Chemical Safety Board to take that seriously and encourage public participation in that process.

Thanks again.

DR. HOROWITZ: Thank you, Mr. Katz.

(Appause.)

DR. HOROWITZ: Bishop Andre Jackson, are you here?

BISHOP JACKSON: I'd like to say good evening to everyone, to the Board, and to the public, and to the community. It's just a blessing to be here today.

You know, I had a lot to say, and I wrote down some things, but I really feel like I'm standing in the gap for the 25 or 30 thousand people that don't have the time to be
here, and that are not here, and I think a
little documentation is better than
conversation.

I have documentation here to where
when you talk about the 15,000 who went to the
hospital, mainly you're talking about maybe
Doctors Hospital or Kaiser and the County.
But I have records of over 113 different
doctors and different hospitals where people
went to that basically you're probably not
even counting. The number might be 30,000, or
35,000 people that actually went and saw
doctors in different places.

So you know, it's one lady, I'll
just call her name Miss M, she had reported
that she hadn't heard the shelter in place.
She evaluated her health being at 6 between a
scale of 1 and 10, and after the fire her
health went down to a 2. Ringing in the ears,
eye irritation, sinus draining, irritation,
shortness of breathing.

Mr. B, he heard the siren ringing,
and he was at a scale of 1 to 10, he had prior existing conditions. His rate after the fire went down to a 2 with chest pains, loss of appetite, dizziness, fatigue, sleeping, chronic coughs.

On, and on, and on, and on. So you know, we can fix these pipes and the regulations and whatever, but how can you fix what's already happened? Prevention is one thing, but I mean, it's already happened.

(Appause.)

BISHOP JACKSON: And I could mention one name of Miss Sherry, because she's a personal friend of mine, she's been to the hospital 15 times. She'll never be the same. She'll never be able to function the way that she used to function. And just like I said, we can fix these pipes, but when people get sick, people die, how can you fix that?

So I would like just to see the time that you guys spend on bringing all this here, and what did it cost? You know, the
cost to be here? Why don't we maybe have --
you know, where we kind of like turn it around
and have some respect for the community. And
you guys might have to stay here maybe two or
three days to hear just the community, just
spill on you, and hear the pure facts of
what's going on here in the City of Richmond.

And we thank you. God bless you.

(Applause.)

DR. HOROWITZ: Thank you. Sylvia

Greywhite?

MS. GREYWHITE: Good evening. My
name is Sylvia Greywhite, and I'm a member of
CBE and Local 350. And my voice is kind of
rough today, and it's been like that for a
while. And we know why. Usually my voice is
very loud, but now for some reason I can't
really talk the way I want to talk.

But I do want to say, first of
all, that I'm very, very happy that you're
here. I'm really thankful that you're here.

I have prayed to our creator YHWH that he

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would see and have pity on us. Because we need help here. We really need help. We have been held hostage by a community's government that has not responded to our needs. We have just been ruined. Our community has been ruined because of what has gone on here, and nobody seems to want to take a stand to correct anything that has gone on. That's why I'm really, really thankful. My prayers have been answered, that you've come to help us, because we do need help.

And I've looked at the emergency planning and reporting, and I saw where you have this statement that says "the California Code of Regulations requires that owners and operators of hazardous waste facilities make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions or releases at the facility."

Now, that has not happened. That
has not happened. I, myself, had to go to an emergency facility, not the first day of the fire but three days after the fire. We had bad days. This was the term for it, when they have -- anyways.

On the third day after the fire, I had to go to take my friend to the hospital, and I got sick on the way there. And I had to go myself to see the doctor. And you know what they did for me? They took my blood pressure, told me to take an aspirin and a cough drop, and that was it. They had no idea of what was in my body, or what was causing me to feel the way I was.

So that information has not been shared with the hospitals. And I'd like to really emphasize that I'm really, really happy that we are addressing the safety issues, okay? But I got sick before the fire happened. I was working for a company in Oakland, and this is like -- I had to retire in 2011 because of this. I would get up every
morning and leave home at 7:00. I had to be at work at 8:00. And by 7:15, I would be sick, just from driving and breathing in my car.

I'd have to stop -- at that time, because I was employed, I had to stop, I would stop at Kaiser Hospital for attention. They would keep me there for probably half the day. I'm just letting you know how they take you in emergency. They let you lay down for all day long, and they watch you. They may give you an EKG, and if that's okay, they think you're okay.

So at 12:00, I'd go to work. And I'm sure my work got tired of that, too, because I certainly did. But they never found any reason for my problems, because they never did test me for what was going on. There has been no communication between the hospitals and Chevron. They have just hidden this from us, so we're not being taken care of.

So the CSB is currently evaluating
ways to ensure that hospitals have the
information necessary to properly evaluate and
treat individuals that may be exposed to
releases from facilities in Contra Costa
County. What I would suggest, first of all,
is to have a test. Because when you ask for
tests, they don't give you tests.

I asked Kaiser for a test for
toxicity, because I was aware at that point
that there was a problem with the
environmental toxins and things in our food
and our water and everything. They told me --
they had a board meeting, in fact, and sent me
a five page letter saying that it was not
justified. There was no reason for me to have
a test of that kind.

And even recently, I asked for a
test from Doctors Hospital. They don't have
that in their lab. They don't have those kind
of tests. So we need to have testing done so
that people will know what is in our bodies.

We are testing Chevron's pipes, we are testing
everything with Chevron, but who is testing us? Nobody knows what we're suffering and going through.

(Applause.)

MS. GREYWHITE: And we're not being healed, because the hospitals and doctors are not aware, or don't know how to do it, or know what to do. So they treat you for a symptom, and that's what happens. But if we had naturalpathic, homeo, holistic doctors, then they would detox you.

And that's the only reason I'm still standing here, is because I did have a friend who turned me on to a naturalpathic doctor who did start a detoxification process on me and sort of helped me to deal with it. But because I am old, I'm 71 years old, I'm not able to deal, my immune system's not able to deal with the situation. And you're going to find that.

Now, I had a job, but what good is a job if you can't go to it? And there are a
lot of people here in Richmond who have that
same problem. They have been employed, or
they're able to be employed, but they're too
sick to get to work.

So we've got to do something, and
we need to do it right away. And judging from
what has happened, you know, Chevron's been
there for over 100 years. And if they're
still -- we're still in a situation where
we're trying to make them do something
correctly and right, then to me that means
that there's no point. And at this point,
I've had enough. And so my slogan now is
"Chevron, stop the fracking and start packing.
Get on out of here. We don't need you."

(Applause.)

MS. GREYWHITE: There are a lot of
cities in America who don't have Chevron in
their backyard, and they are doing marvelous.
And their people are healthy. We can do the
same thing.

DR. HOROWITZ: All right. Thank
you, ma'am.

(Applause.)

DR. HOROWITZ: Next is Steve Zeltzer.

MR. ZELTZER: My name is Steve Zeltzer. I'm with United Public Workers For Action and California Coalition for Workers Memorial today. And it's very interesting we're having this forum tonight, this presentation, because of what happened not only in Boston but in Waco, Texas, where there was another explosion and there had been no investigations of that plant for decades.

And the workers there were too terrified to say anything. They're non-union, so they're afraid to stand up for their rights. So there's terrorism in this country, but the corporate media doesn't talk about the Chevrons and these other companies that are terrorizing people in this country.

Because it's organized terrorism.

They knew that plant was going to blow up,
because they weren't doing the proper
maintenance. They're criminally negligent.
It's criminal malfeasance.

(Applause.)

MR. ZELTZER: Nobody's talking
here on this panel about criminal penalties
and putting these executives in jail.

(Applause.)

MR. ZELTZER: If you or I did
this, we would go to jail. But Chevron and
the executives apparently have freedom,
freedom to get away with this. We'll put it
off for another study. Maybe in 20 years we
can have another study.

Well, actually, the question of
criminal prosecution is critical, and
California OSHA can criminally prosecute. And
Chief Widess doesn't mention that. In fact,
she said that they have a problem with
inspectors, there are only seven inspectors
for the oil industry in California. Well, I
have a question. Why the Hell is she giving
them a license to reopen that if they don't
have enough inspectors to inspect it?

(Applause.)

MR. ZELTZER: Question: if you
don't have enough inspectors, there are only
160 inspectors in California for 18 million
workers. Governor Brown is very concerned
about jobs. He went to China. How about
hiring some workers to inspect these
facilities?

(Applause.)

MR. ZELTZER: And make the oil
companies pay. But I, frankly, don't believe
that we're going to make Chevron a better oil
cOMPANY. Chevron, like the banks, are in the
business of making a profit. They're not in
business of taking care of the sick people in
Richmond. We should require that they build
a hospital, a public hospital in Richmond, for
anybody who's been sick.

(Applause.)

MR. ZELTZER: They have the money
to do that. Instead of giving crumbs to some non-profit agencies, 50 million dollars for a hospital for the people in Richmond who they've contaminated and poisoned, and the children here in the schools, where you have 50 percent asthma. What are they doing about that?

Well, I think your board needs to investigate that. These hospitals in Northern California where people are being contaminated and sickened are not doing studies, epidemiological studies, about where people live and how they get sick and why they're getting sick. We need to have liability for these companies, so they have to pay for the people who they're sickening.

(Appause.)

MR. ZELTZER: The fact of the matter is, this should be part of your study. But frankly, the industry controls that. And that's why the accident in Waco and what happened here will happen again and again,
until, frankly, we have public control of the energy industry. We need to have the working people and the public in charge of the energy industry, and not these criminals that are really destroying the world.

(Applause.)

MR. ZELTZER: Thank you.

(Applause.)

DR. HOROWITZ: Thank you. Next is Roger Lynn, CBE. Mr. Lynn?

MR. LYNN: Good evening Chairman, Members of the Board. My name is Roger Lynn. I'm an attorney with Communities for a Better Environment. I'll keep this quick, just three things.

First, I want to highlight one recommendation from the interim report, and that is the requirements for inherently safer systems. Over here, the industrial safety ordinance has too many shoulds and considers. It doesn't have enough shalls. The industrial safety ordinance has to be amended to require
inherently safer systems.

(Applause.)

MR. LYNN: Second, higher sulfur crude. We all know more sulfur means more corrosion, more corrosion means more refinery incidents. Going forward, please focus on the feed stock quality, what refineries refine and what they should not refine.

And third, finally, last but not least, to the investigative staff, thank you. You folks have been here since day one of this incident. You've been willing to listen to all the other agencies, community and the workers. And your recommendations are top notch. Board, please accept their recommendations, all of them.

Thanks.

(Applause.)

DR. HOROWITZ: Thank you. Jeff Ritterman. I think he left. I saw him earlier. He's gone, okay. Off to treat some patients, I guess. All right. Llana Garcia?
MS. GARCIA: Good evening,
Chairman, Board Members and staff. My name is
Llana Garcia. I'm an attorney and legal
fellow with Communities for a Better
Environment, and I'm coming here tonight from
Huntington Park in Los Angeles County. I'm
here representing our community members in the
Southern California region, and in particular
in Wilmington.

Wilmington is a community which,
as my colleague Julia May mentioned, is home
to not just one but five refineries. And it
is a community that, I'd also have you know,
has 30 percent of its residents fall below the
poverty line, and it's 85 percent Latino.
It's this community that I ask you to keep in
mind when adopting your staff's
recommendations this evening, and in
maintaining transparency from this point
forward and making public the final report and
recommendations.

And we want to thank the staff for
its very keen process-oriented safety recommendations, which address many of the shortcut problems, like the overuse of clamps, the lack of documentation and accountability regarding whether or not to address or ignore maintenance and preventative safety recommendations made from front line laborers.

We've heard from many of the workers in the Southern California refineries that these are critical problems, so we want to thank you for those recommendations.

And tonight, as my colleagues have mentioned, I also want to stress that you consider the imminent threat that's presented by higher sulfur crudes like tar sands, and I want to draw attention to the fact that this is a pressing issue for community members in Southern California, and has actually been the subject of a lot of recent media coverage in the Los Angeles Times and other sources.

Our Southern California workers and communities, like many throughout the
state and across the country, urgently need protective measures to ensure that the safety recommendations that have been made are not weakened by the absence of an adequate focus on the feed stock crude quality. This is an integral part of a truly inherently safe systems approach to refinery safety, and it would be a tragic missed opportunity to ignore the issue of tar sands.

Our members in Wilmington are incredibly concerned with recent statements by corporate leaders, such as those at Valero, that they plan to bring tar sands crude for refining in the Southern California refineries. To reference the call to action that was made by the Richmond Mayor earlier, these are community members who are presently going door to door to alert family members, residents, neighbors of ExxonMobil, ConocoPhillips, Tesoro, and Valero of the hazards that are coming their way.

Now, we know, based on the staff's
own investigations into other Chevron 
facilities, like that at El Segundo, that the 
same sulfidation issues that caused the 
Chevron fire here are already present in our 
Southern California refineries as well, and 
therefore we cannot stress enough the 
importance of integrating the feed stock 
quality assessments as part of the inherently 
safer systems in the recommendations that have 
been made by the staff.

Our communities already suffer 
from consistent black smoke plumes in their 
neighborhoods, close to their homes, their 
schools, and the areas where the public 
gather. We simply cannot afford a fire such 
as that which occurred here in August. 

I want to thank you for seriously 
considering our community concerns and 
adopting your staff's recommendations this 
evening. Thank you.

(Appplause.)

DR. HOROWITZ: Thank you. Marilyn
Langlois. I think I saw her earlier. Yes, there she is.

(Applause.)

MS. LANGLOIS: Good evening. I'm a member of the Richmond Progressive Alliance. My name is Marilyn Langlois. And we met with members of the investigation team shortly after the fire.

I really want to thank you all for being here. I know it's late. We're all tired. But this is really important to us, both to those of us who are still here and also to those who couldn't come tonight. I live here in the community, and really we need to take a look at this.

I want to thank the investigative team for its really excellent investigation and report, and I really like that animated video you did of a reenactment of the incident. Maybe you could put that on YouTube for everybody to see at home.

(Applause.)
MS. LANGLOIS: Thank you. It really helps to envision --

INVESTIGATOR TILLEMA: We already did, actually.

MS. LANGLOIS: -- what it was actually like. And to the Board Members, I urge you to accept and adopt this report. It's an excellent report which paves the way for making a major and necessary shift in the way refineries are operated and regulated throughout the country, not just here in Richmond.

There are four themes I've heard this evening that I just want to emphasize briefly. Number one, prevention. And in terms of prevention, I urge you to include in the report, in your recommendations, one of the really inherently safer systems from a preventive standpoint of view, which would be to limit the quality of crude oil, limit the sulfur content from the outset.

(Appplause.)
MS. LANGLOIS: Then you wouldn't have as much corrosion.

The theme of transparency. We heard tonight that the pipe that failed, over the last 10 years there had been six times there had been recommendations for inspections that were ignored. There were four times recommendations for upgrade that were ignored, just on that pipe alone. So how many other pipes are there in the refinery where the same thing has happened? There have been ignored inspections, ignored upgrades. And they're out there, operating, ready to blow. Let's stop that.

The other theme, worker empowerment, very, very important. We've heard from the steel workers and others that the workers alerted management to a lot of problems before incidents happened, and they were ignored. We need to have the workers heard. They are clearly the experts, as many have said.
And finally, enforcement. We have to now get the corporate dollars out of politics, so that we'll have elected officials at all levels who will have the guts to put in place a robust and well-funded regulatory framework that includes criminal prosecution --

(Applause.)

MS. LANGLOIS: -- for cases like this where there's been willful negligence. There's no excuse for a multi-billion dollar corporation to put the lives of Richmond residents at risk by its failure to adopt and implement inherently safer systems at all times.

Thank you very much.

(Applause.)

DR. HOROWITZ: Thank you. And that video you mentioned is available on YouTube.com/USCSB, and also on CSB.gov, along with our report, that's on CSB.gov. That's YouTube dot com, forward slash, U-S-C-S-B.
And you can get our full report -- it's at the front, but you can also download it and send it to your friends from our website, CSB.gov.

All right. Why don't we try --

(Off-mic comment.)

DR. HOROWITZ: Yes. There will be a transcript made, ma'am, and that will be on our website in a few weeks. You can access that at CSB.gov.

I think the -- my understanding is that the television station is going to make an archive of the actual broadcast, and that's KCRT, I believe. Is that correct? Okay.

Thank you.

(Off-mic comment.)

DR. HOROWITZ: Go ahead, sir.

MR. CAMPBELL: I know it's late, so I don't want to hold everybody up, but --

DR. HOROWITZ: Just say your name, because I don't have it on the list.

MR. CAMPBELL: David Campbell, Secretary and Treasurer for Steel Workers
Local 675 in Southern California. I want to say that I agree with my steel worker brothers and some of the community members who have explained that this is an industrywide problem. It's not just a problem in California; it's a problem nationwide.

(Applause.)

DR. HOROWITZ: Okay, thank you. Mr. Campbell, thank you for traveling up for the meeting.

How about Alexandria Anderson?

(Applause.)

MS. ANDERSON: U.S. Chemical Safety Board, distinguished panel members, my name is Alexandria Samantha Anderson. I'm a resident of the City of Richmond. I'd like to thank you all for being here tonight, and for your thorough and professional work. It has been an honor to be here and to listen to your recommendations. I hope that you adopt them tonight.

I have a message more for the
people of the City of Richmond. That is that the U.S. Chemical Safety Board is not necessarily a traditional regulatory body. If we want to see changes made, then we need to go to the Richmond City Council, the Contra Costa County Board of Supervisors, but these individuals are not the people to go to. We have to put political pressure on our local government.

(Applause.)

MS. ANDERSON: That's what we have to do, as well as our state and our national government. But in particular, our local and our state government. And we understand that Chevron's a multinational corporation, and multinational corporations in this day and age have a thing about regulatory capture. I won't go into it, but -- excuse me, I'm a little nervous.

But we need to ensure that we are putting the maximum amount of pressure on the Richmond City Council and on Contra Costa
County. Thank you very much.

(Applause.)


No? Okay. All right. Rose Cuelo?

MS. CUELO: I'd like to thank you for coming and listening to us. I'm a resident of San Pablo, but I did live in Richmond for a long time.

My concern is that if you have an accident, you do something to correct it so it doesn't happen again. August the 6th was not the first accident that Chevron had. They've had several. So going back to the latter part of '99, or the early part of 2000, they had accidents then and they haven't done anything. The community has suffered.

You talk about -- you can't -- I'm not saying you, but they can't shut the refinery down to make the repairs as needed, because it would be a hardship on them, but
what about the community? Chevron is shutting us down, because they're killing us. I've gone from a size 16 down to an 8, and I don't know whether I'm dying or what, you know? And like the lady said, she's concerned about her health, too.

But what is Chevron doing about it? Nothing. And maybe now that you're here, they'll listen to you guys. Because they're not listening to us, as a community. They're doing what they want to do, and all they're doing is getting fined, getting a slap on the wrist, and doing the same thing that they've been doing for years. And they're killing us.

That's all I have to say.

(Applause.)

DR. HOROWITZ: How about Kenji Warren? Is he here?

MR. WARREN: Good evening, everybody. One, I would like to thank as well the investigators for your work. It seems that it was done with great integrity, and I
appreciate it as a resident of San Pablo and someone who works in Richmond, and I would urge the Chemical Safety Board to adopt the recommendations, and furthermore the recommendations from Communities for a Better Environment.

The only thing that I would maybe ask is the recommendation that the plant, the refinery, be shut down immediately --

(Applause.)

MR. WARREN: -- and that the workers be allowed to make the changes that you're recommending.

Thank you very much.

(Applause.)

DR. HOROWITZ: Okay. Next is Frank Cambra.

MR. CAMBRA: Thank you for the opportunity to speak to the Board and the panel tonight. My name is Frank Cambra, and I'm a former employee of Chevron. I worked for Chevron for 25 years, and I feel obligated
to be here tonight as I was here eight months
ago at the onset of the study. Some of you
may have been at that meeting, and at that
meeting I gave some of my background, and I'd
like to do that. At the sake of being
repetitive, I'll tell you a little bit about
myself.

I would like to address the
incident that occurred, and I would like to
make two predictions and three
recommendations, and then I'll be done.

Frank Cambra, graduate of U.C.
Berkeley with a Master of Engineering in
structural engineering. While I was attending
Berkeley, I was working for Chevron as a co-
op, and I did an investigation of cooling
towers that were subject to collapse. One had
just collapsed in Pascagoula. A second we had
repaired in El Paso, Texas. And then the
third in El Segundo, which was subject to
collapse, and I investigated it and made
recommendations to repair it. And on the
recommendations to the chief of engineering at El Segundo, I was told point blank "Son, you don't understand oil field economics. There's no money to repair this tower. Maybe next year."

And a year later, while I was in graduate school at Berkeley, the tower collapsed. It was an Ecodyne Redwood cooling tower, and pieces of the tower went for 100 yards in all directions. And it was at that point that I decided that, following my Master of Engineering, I would get a Master of Business Administration with an emphasis in economics. I was not going to have a Chevron manager tell me I didn't understand economics again.

And that was the onset of 25 years with Chevron. Sadly, it didn't get better. I was discharged from Chevron in Kazakhstan on the Second Generation Project where we were building the largest oil plant of the day in the world. I think it was 200,000 barrels of
oil per day of sour crude. And there were many problems, but among them was the compaction of roadways, and I wanted to comply with API standards. And I was told "This is not California. This is Kazakhstan. We do not have to comply with API standards." And I was appalled.

And that was one of a number. I don't have enough time to go into some of the others. And that's why I'm here tonight. Now, in respect to your work, if you recall, eight months ago, I asked you one question: will you do your job?

And I'm here to say that the U.S. Chemical Safety Board has done their job, and I commend you. I think your recommendations are outstanding, and I can only hope that they will be endorsed and embraced by Chevron management. I have some doubts. I think they will be resistant. They will try to spin it and change it to accommodate their own requirements.
But I do commend you, and I commend others that have also made presentations tonight on their assessments, and I feel that I am being a bit redundant in what they had to say. But as I see it, your technical assessment and your regulatory recommendations are excellent.

We have a case of they built the plant, they connected it to a pipeway. Somewhere in the connection between plant and pipeway, an eight inch piece of carbon steel was utilized in a jumpover, a connection of two plants, that was in effect inadequate for that type of service. Carbon steel in hydrogen sulfide service. I said this eight months ago. Really? Carbon steel in hydrogen sulfide service is not acceptable, and that's kind of known throughout industry.

Well, we talked about flagging on inspection. I heard about that. Yes, flagging on inspection, "We test wall thickness and we have to make repairs, we have
to do maintenance." Why wasn't that pipe flagged for its age? The pipe was 40 years in service. It was known to be carbon steel. And yet I don't hear anything in our safety management of flagging for age. Take that into consideration, if you will.

I'd like to make two predictions. The first prediction, sadly, and it's been alluded to earlier, we live in a seismically active area. We know, USGS is telling us, we have a Hayward Fault, and we're on it right now. When that fault erupts, we will have a magnitude 7 earthquake in this Bay Area. It's going to happen.

And Chevron knows that their tank farm on the Richmond hill is inadequate to sustain that type of an earthquake. Those tanks are going to rupture. Those tanks are going to spill their contents. The crude, the product and everything in that tank, every full tank in that farm is going to fail. And they know that. And there's reasons to
I understand that going back to the Richmond field studies where earthquake simulation was conducted back in the 1980s, okay?

Second prediction, and I'm speaking from my knowledge of working for Chevron on these activities. There's going to be a hydrogen sulfide release in Kazakhstan from their rich sour gas injection in the next 10 years. It's going to happen, and it's going to be horrific, the amount of hydrogen sulfide that's going to get released from the sour gas injection system. The injection pipe operates at 9,000 psi. It's already been compromised once during its commissioning, okay?

To conclude, three recommendations, and I think they've already been discussed, for the most part.

One, there's no need for sour crude at Richmond. Stop placing sour crude through the Richmond refinery. That should be a recommendation.
MR. CAMBRA: Certainly until they have proven without a doubt that there is no other piping risk that exists at Richmond. Second, a million dollar fine from OSHA is a slap on the wrist. Chevron's net profit per hour is a million dollars. And they're going to fight that fine of one million dollars with five or ten million just to get it off the books. Imagine. That's going to happen.

DR. HOROWITZ: Just briefly, if you will?

MR. CAMBRA: Thank you. And the last recommendation I have, or second recommendation I have, is to shut down this crude unit number four.

(Applause.)

MR. CAMBRA: We do not need processing of distillate at crude unit number four. That's how you get management's attention. We talked about -- I'll be brief -
- inherently safer systems. What we need is inherently safer management. That's what's missing. Management hasn't endorsed the people like myself or the people from the steel workers who come in and identify a problem. No, they fire them. Got rid of the problem, didn't I?

(Laughter.)

MR. CAMBRA: And the last recommendation, and this is really for the City's consideration. We should -- you know, Richmond refinery built in 1902. This was a wilderness. This was the end of civilization. Today, it's the center of a metropolitan area.

(Off-mic comment.)

MR. CAMBRA: Thank you.

And as the center of a metropolitan area, our risks are much greater than they were in 1902. So my recommendation is, we need to move with the times. We need to convert Richmond from a refinery to a blending and marketing plant.
(Applause.)

MR. CAMBRA: We need the energy, but the times demand change away from refining here in this community.

Thank you.

DR. HOROWITZ: Thank you. Paula Shields, perhaps? I'm not sure about that. Victoria Sawicki? Maybe you could say that for me.

MS. SAWICKI: Okay. Victoria Sawicki. I am a resident --

DR. HOROWITZ: Thank you. How do you spell that, ma'am?


DR. HOROWITZ: Okay.

MS. SAWICKI: I'm a resident of Richmond. I'm also on the Meiklejohn Civil Liberties Institute. It's a human rights organization.

You know, I've been to so many community meetings about Chevron in the last 10 years. I have seen and read different
studies, reports have been made. Your report was fantastic. I appreciate the honesty and the straightforwardness. I've heard about regulations that have been violated, safety procedures that have been ignored, and workers that have not been listened to. It's not only in the United States. I believe it's all over.

And you know, on the one hand when I hear a Henry Clark, or a Marilyn, or the young gentleman that stood up and said he wants to close the plant, the youth speaking up like that, I'm inspired. But then, when I hear OSHA, the woman from OSHA, you know, what can she do? She can't do anything. EPA has not done anything. All of the departments have failed the citizens of Richmond. They have failed the citizens of West, Texas.

(Appplause.)

MS. SAWICKI: When Steve Zeltzer got up and said the corporations have the right to do this and do that, they had the
right to kill. And they could have killed those 19 employees that we saw in that video. They could be dead now. They have the right. They have the right. What can you do? You've worked hard, you did your best, you put the truth out there. Now, what are you going to do? You can't do anything. It's up to us. You know, and I feel like --

(Appplause.)

MS. SAWICKI: You know, it's frightening. Because I know Henry Clark has been fighting for decades, decades, and there's been some improvement but really things are getting worse right now. And you know, you hear Chevron, they send out all this literature in the mail about what a great neighbor they are. Lies, lies and lies.

You know, the first community meeting, you guys weren't here. The one right after the big cloud and the big fire. People -- this place was packed. And this one woman -- you know, Chevron was up there with all
their suit coats and their ties, and they're
giving their little spiel. And the community
kept saying "There was an explosion, there
was," and they're "No, no, no."

But we were right. They were
wrong. We've been lied to and lied to so
much, it's just -- we've had enough. It's
just ridiculous. And I don't know what this
is going to accomplish, what this meeting here
is going to accomplish. Chairperson Rafael,
you eloquently said, twice I believe, that
human beings are precious. Really, they are.
I believe this woman here that spoke was in
tears, and the other woman that doesn't know
what's happening within her body. How many
children couldn't breathe and had to be rushed
to the hospital?

But you're not seeing that today,
see? We're all here, and we're all tired
right now. And you know, how are we going to
-- I agree with you that people are precious.
What do we do with people that don't think the
way that we do? Does Chevron think this woman is precious? Do they think that the community is precious? What about the workers? The workers that were ignored, are they precious? Do they matter? Are they listened to? No. Nope.

So the point is, actions speak louder than words. I'm tired of Chevron's words. I'm sure the rest of the community is, too. What does Chevron really care about? You know, it's not about -- you've had some sort of -- I don't know, the way you put it, some upper management decisionmaking process has to be examined.

Well, you know what it is? They don't care about the community. They care about one thing, and that is money. They care about profit. They could have fixed that pipe, but they chose not to because they didn't want to spend the money. And all the other pipes that are in there, they do not want to spend the money. And the only way
that we're going to change things is not by trying to kind of talk them into being a good oil company, which I believe is impossible. And I just want to -- last thing. The right to breathe clean air is one of the most basic human rights.

(Applause.)

MS. SAWICKI: Thank you.

(Applause.)

DR. HOROWITZ: Thank you. Roberta Spruckerman, or Speakerman? What was that, ma'am? Speakerman.

MS. SPEAKERMAN: Hello. I did want to thank you for what you put out, partly because I would get -- this is not my field, and I would get so frustrated with what I knew was happening but I couldn't put my finger on it. And now I'll have a way to do some of that.

One of the things -- I thought about the Pinto. Remember the Ford Pinto?

There it was. You know, cost-benefit
analysis. And that's what this feels like. And it's everywhere within the system. And for you, if there's any place that you are thinking you might soften your word or couch your terms diplomatically, the industry's response should make you aware that it's going to be denied. "No, safety is our first, most important thing." I mean, so make it as strong as you can. And I never had an breathing problems until I moved to Richmond, and now I do.

And the last thing is the transparency issue. Because nothing was shared with Kaiser, they had no idea what to tell the people who were coming there.

That's it. Thanks again for your work.

(Appplause.)

DR. HOROWITZ: Thank you.

CHAIRPERSON MOURE-ERASO: Mr. Horowitz, do you think that we could find by a show of hands how many more statements we
have? Because we need to take the vote before the day is over.

DR. HOROWITZ: Mr. Chairman, I have about 10 who are still signed up, sir. Let me just take a -- I'll call the names that are here, and if you show your hand, okay?

Michael Leedy, are you here?
Okay, he is here.
And Bill Pinkham, are you here?
Bill Pinkham is not here. Okay.
And how about Eduardo Martinez, are you here?
(Off-mic comment.)

DR. HOROWITZ: Okay. How about Sylvia Hopkins?
She is here? Okay, you are here.
Great.
And Mary Flanagan?
You are here. Okay. And Steve Ongerth?
You are here. We just spoke a moment ago. Sorry about that.
Melvin Willis?

Melvin Willis is here. Sandy Satyrn?

She left, okay. How about Dan Berman?

Dan Berman is here. And so, Mr. Chairman, we have one, two, three, four, five, six. That's seven.

CHAIRPERSON MOURE-ERASO: Let's go for it.

DR. HOROWITZ: Okay. All right.

Michael Leedy, why don't you go first?

CHAIRPERSON MOURE-ERASO: I will beg that the speakers please look at your watch and just put a limit of three minutes to your remarks. We will be happy, and the people behind you will appreciate it.

MR. LEEDY: Good evening, everyone. I'm a 34 year Richmond resident. I was a board member on the West County Toxics Coalition, and I served on the local Emergency Planning Committee in the '90s. I was also a
staff member of CBE. I made recommendations for the RMPP, the risk management prevention plan, concerning anhydrous ammonia and hydrogen sulfide.

I wholly endorse the recommendations of the Chemical Safety Board staff, and in addition I'd like to ask that you put in the recommendations from Mr. Espinoza, Mr. Karras, Mr. Wilson and Ms. May, in particular concerning threats with respect to the earthquake hazards that we have in this area and the release of dangerous chemicals.

So the incident that we had on August 6th was pretty symptomatic of what happens with multinational corporations, and they're putting our communities at risk to drive their corporate profits. And basically what they did, they took a gamble and they rolled the dice in our community, and they put our community at risk.

They took a calculated risk that the accident would not occur, and they ignored
a lot of recommendations, recommendations by experts in their environs, their workers. And they presented these recommendations, and they ignored them. So they rolled the dice again, but they got caught this time.

And they made the calculated risk that, even if they got caught, that they'd be able to bully the public officials and the regulators to manage this, using their high priced lawyers and their expensive public relations folks.

So after all this, basically what it came down to is money. They took a risk that, if they didn't need to -- even if they had a spill and they had to do the public relations cleanup and the other things that went along with it, all of the money that they had to spend with that, they would still be in a situation -- they felt that they could still take that risk and, even with the potential risks -- and by the way, it wasn't the kind of risk that -- the risk could have been a lot
worse because of the wind factor -- let me
just settle down a little bit. Let me just
settle down.

They didn't think that, even with
all of the potential risks that we had with
the incident in Richmond, and with the
problems that we had because -- all right.

DR. HOROWITZ: Take your time.

MR. LEEDY: I'll stop.

DR. HOROWITZ: All right.

MR. LEEDY: One second. What we
need is to institute fines and penalties that
will -- at a magnitude that will give the
corporate managers pause before they roll the
dice on our community. And secondly, it's
high time that we install and enforce severe
criminal penalties for the corporate criminals
that put our communities at risk. We need to
have enforceable rules and criminal penalties
and fines that make it much more risky for
them to even consider taking these kinds of
risks in our community.
Sorry about the -- thank you very much.

DR. HOROWITZ: All right. Thank you.

(Applause.)

DR. HOROWITZ: And we go to Eduardo Martinez, please.

MR. MARTINEZ: Since my time is limited, I will skip all the preamble and get down to the points that I want to make. And one of them is that, well, I own an old '87 Chevy pickup truck, and it has to go to a special place to be smogged. If it doesn't pass, I can't drive it.

(Applause.)

MR. MARTINEZ: Even if I were to take it to court and say "You know, this smog test was bogus and I want to drive it anyway," I can't do it. Likewise, Chevron should not be able to operate their plant --

(Applause.)

MR. MARTINEZ: -- just because
they want to contest your findings. So you should recommend that Chevron not operate the plant, even if it's in litigation, until it's repaired.

(Applause.)

MR. MARTINEZ: Just the same way I have repaired my truck.

The other thing is that Chevron loves litigation. They have tried to rob our community of thousands, millions of dollars through asking for property taxes back. We need to make it difficult for them to waste our money in litigation, somehow, and we also need to make them responsible for the health impacts that they make on our citizens. We need to put into the recommendations a community benefit agreement in which Chevron puts money into the community so that we can take care of the damage that they caused.

Thank you.

DR. HOROWITZ: Thank you. Next is Sylvia Hopkins.
MS. HOPKINS: Yes, I live in Atchison Village, close to Chevron. I'm a member of CBE and RPA.

I have heard that there's been, in the industry, a style adopted recently, a practice, where managers of refineries are there for two years. And they get a promotion next time if they do well while they're there, and that includes keeping costs down.

I wonder if you could, somewhere in your report or in your recommendations, if part of safety could be that the manager needs to live nearby and be there for a much longer period of time, like they used to be. I think that might help things.

(Applause.)

MS. HOPKINS: Thank you. And my next recommendation is that Chevron be caused to build a hospital here and everybody gets health care.

(Applause.)

DR. HOROWITZ: Thank you. Mary
Flanagan is next.

MS. FLANAGAN: Hi. I urge the Board to accept the report. And I'm a teacher. I've been in this district eight years. I'm a proud member of United Teachers of Richmond. And I'm particularly concerned about the daily effects of Chevron emissions on the children. Teachers are aware that just one byproduct of the refinery process, which includes mercury, benzene, et cetera, just one byproduct, lead, seriously affects infant and child development.

Children are affected by even small amounts of lead, and the lead's already in the soil. And lead ingested by children can cause lifelong learning disabilities, issues of aggression. And that's not really documented in our district. It's very, very hard to get the kids through the process of being diagnosed and identified.

Richmond still has lead in the soil from lead additives in the gasoline
process that was discontinued in the '70s. The lead doesn't dissipate, it doesn't go anywhere, and there's a long Mother Jones article about this massive issue of contamination, and another issue is that 30 percent of the kids at my school have asthma medication. We're about a mile from the refinery.

It's essential to have outside regulation on the Chevron refinery. Richmond has had many, many explosions, fires and leaks over the last 40 years, and Antonia Juhasz documents this in her book, The Tyranny of Oil.

And isn't it true that Chevron minimally updated and renovated their refinery over the last 40 years? The refinery's over 100 years old, but if Chevron did extensively renovate they would have been subject to the criteria written into the 1972 Federal Clean Air Act, and that act stipulates that particular safety and filtering improvements
be put in place when Chevron or a corporation spends money renovating, as soon as the refinery is rebuilt or extensively renovated.

But Chevron did not extensively renovate or rebuild the refinery. They continued to use the old refinery, minimally renovating, so that they avoided being subject to the provisions of this 40 year-old Clean Air Act. And they would not invest that money, and thereby they seriously endangered and harmed the residents of Richmond, and the children, more than one generation of children.

Chevron must not be allowed to self-regulate. Children's health is not their priority. Safety is not their priority. I urge you to adopt the CSB report and recommendations. Thank you.

(Appause.)

DR. HOROWITZ: Thank you. Steve Ongerth? Spell it for me one more time, if you would?
MR. ONGERTH: Why don't I just pronounce it for you? My name is Steve Ongerth.

DR. HOROWITZ: Can you give me the spelling for the court reporter?

MR. ONGERTH: O-N-G-E-R-T-H.

DR. HOROWITZ: O-N-G. Okay, thank you. Sorry about that.

MR. ONGERTH: Okay. Well, I am a union member and an environmentalist. I'm a member of the Industrial Workers of the World. I'm also a union ferryboat deckhand.

I grew up in this community. I graduated from high school, and our ceremony was held in this very auditorium in 1989. And the issues at Chevron were issues then. I'm also a graduate of U.C. Berkeley, but I think I really got my education in the campaign to save Headwaters Forest.

And I just recently wrote a book which is about to be published about very similar conditions that existed in the timber
industry, where timber corporations were
exploiting workers and destroying the
environment, and the conditions in the timber
mills were atrocious.

I think it's kind of an
interesting coincidence that this incident
happened in West, Texas because before I lived
here, I lived in Ennis, Texas, which is not
too far away from West, Texas. And while
we're having this discussion tonight, a worker
was killed in Santa Rosa when glass fell on
him.

And I have to say that I do
appreciate the work that the Board has done.
I think it's a tremendous step forward, and I
think the recommendation should be adopted.
But it's very interesting. Almost 99 percent
of the people here agree. The only person who
doesn't agree is the person who's saying that
the industry should regulate itself. I think
we've seen the results of that. It's not very
good.
But I think, as much as I think these recommendations are a good start, I think we need to really look at the elephant in the room, and that is the fact that we have an economic system where the wealth is privatized and held by the few, and the costs are outsourced to the community and to the environment, and it is not working. In fact, it is killing the planet. So I think this cannot continue.

It's about time, and I think it's great to see that we are finally starting to evolve and develop a backbone. We need to do more than that. We need to put an end to this murderous system. We need to be in control, not the industry. Because the results are not only dangerous, they're killing us, and they're killing us every day. And it hasn't stopped in 100 years, and until we get stronger and more organized it's going to continue.

So once again, I think it's time
that these recommendations be a start, but we have a lot more work to do. Thank you very much.

(Applause.)

DR. HOROWITZ: Thank you. Melvin Willis?

(Applause.)

MR. WILLIS: Good evening. My name's Melvin Willis. I'm out here representing ACCE. It stands for Alliance of Californians for Community Empowerment.

First, to start off with, I love all the recommendations that were made. It's finally good that this is being realized, not only just at a local level but from a national standpoint, for people to come all the way from Washington, DC just to come here and do a thorough investigation and see what the problem is, and not only apply it to this situation over here, but recommendations that should be applied to refineries all across the United States. And I really appreciate that
we can get some sort of blessing out of this curse.

But I just want to say that, you know, just echo the fact that 10 years ago, on the date of the refinery fire, they had a recommendation that it should be replaced. I was 12 years old then. I've kind of sprouted up since then.

(Laughter.)

MR. WILLIS: So we can see how time can really play a factor when it comes to many things, including wearing and tearing. And you can imagine, if that's happening in that crude unit, how many other -- actually, there's 2,000 clamps, so we've got 2,000 other units that need to be addressed as well.

So this is a great step for things to get done. I appreciate you guys coming out here. I think you should accept these recommendations. They're great recommendations, with Greg Karras's recommendation that you put it as urgent.
Because if we've got 2,000 clamps, and Mayor McLaughlin said there were about 14 explosions, this is an urgent matter that needs to be addressed quickly, and we can't let time go by. Because weather conditions made it to where nobody died, but who knows what will happen the next time, if there is a next time. Hopefully there's not.

Thank you.

DR. HOROWITZ: Thank you. Dan Berman?

MR. Berman: Hello. My name is Dan Berman, and I've worked on and off in the area of occupational health and safety, including with Brother Rafael. We both worked for the Oil, Chemical and Atomic Workers, closely with Anthony Mazzocchi.

And I think that's where he gets some of his ideas of holding these open sessions. Because that's how the Oil, Chemical and Atomic Workers first got the Occupational Safety and Health Act passed.
They had these open sessions for people throughout the union, in each of the ten districts of the union.

In any case, I wanted to speak on two things. I think what we're really talking about is about democracy. And I don't mean just democracy in the sense of elections and so forth, but also democracy at the place where people work. And what happens if people don't have the right to protest, the right to raise hell, the right to blow the whistle as workers and as intelligent people in the plant? Nothing gets done.

I want to cite one case that Steve Zeltzer, who testified here earlier, he's gone home, but he put it on Labor Video Project. There's a woman named Becky McClain who worked for Pfizer. She was a molecular biologist. She noticed she was getting sick. She was also on the safety committee. A non-union shop in Deep Water, Connecticut.

So they said "Don't keep listing
these hazards." She couldn't help herself, because it was so blatant. So she filed an OSHA complaint. She wanted some sort of response. The lady from Federal OSHA came down from Boston -- and then she got fired immediately.

So the lady from Federal OSHA said "I don't think you're going to win this case." They only deal with one case in 200. They just have no -- "we have no staff, no way to deal with this."

Well, what happened is, she took the company to court in April of 2010. She won a 1.4 million dollar judgment in the federal court. It was upheld in the Second Circuit last October, so the company's going to have to pay up.

Now, of course, Pfizer is the biggest pharmaceutical company in the land, or in the world, and so it doesn't really mean much to them except as a matter of principle. But she stood up for her rights. Her husband
supported her completely. They don't have any kids, so they didn't have to worry as much about where the next meal was going to come from, although -- and so that's what happens sometimes.

And as fewer and fewer workers have unions to represent them, and it's down to seven percent in the private sector, which is the sector she was in, they don't even have the semblance of protection. And so that's something to worry about: democracy.

And the second thing is, I was wondering about -- this is what Tony Mazzocchi said one time. We were having this discussion. The refinery industry and Oil, Chemical and Atomic Workers had refineries all over the country. They used to have turnarounds that lasted a month just every year, and they would shut everything down and they'd work on it when the refinery wasn't in operation. That's why they had fewer explosions in those days: they took the time
out.

The second issue was, the people who worked on the refinery every day did the turnaround, so they knew where the problem was. They wouldn't allow the company to bring in, you know, non-union, ignorant workers that don't know very much about the process just because it was cheaper. And this has always been an issue in that industry.

DR. HOROWITZ: Just briefly, please, Mr. Berman.

MR. BERMAN: I'll let you -- that's enough. I'm done.

DR. HOROWITZ: You can finish your comment.

MR. BERMAN: My only point is you need trained people. Just as you need to be trained to drive a bus, you should be trained to sit in the control room, and you shouldn't have to sit in there for 12 or 14 hours in a row, because you're going to get tired, and it's a fatigue problem.
Thank you.

(Applause.)

DR. HOROWITZ: Thank you. Elliot Hughes, and he is the last.

MR. HUGHES: Hi. My name's Elliot Hughes. I used to live in Richmond, but I moved to Oakland. I was kind of -- I have lung problems, and I was badly affected by the refinery fire.

I just wanted to make this point. And I'm really nervous, actually. I don't ever really speak in front of large crowds. But I'm also a member of the Industrial Workers of the World, and I'm an environmentalist and a unionist.

What I see, the negligence that Chevron has had over this refinery, is just atrocious. And I want to say, if it comes to that they want to start this refinery back up with 2,000 clamps on it, the community and the workers need to unite together and even take direct action to make sure that this refinery
does not run conditions that may be unsafe for
the workers, the communities, or the
environment as a whole.

So, thanks.

(Applause.)

DR. HOROWITZ: Thank you. That's
it, Mr. Chairman.

CHAIRPERSON MOURE-ERASO: Thank
you, Doctor Horowitz.

So I would like to pass the gavel
to Richard Loeb, the General Counsel of the
CSB, to conduct the vote for us.

MR. LOEB: I need a motion. But
would you like me to take the --

CHAIRPERSON MOURE-ERASO: The
whole thing. You're the lawyer.

MR. LOEB: Well, then, I guess the
question then, which the Board -- would you
like to make the motion?

MEMBER GRIFFON: I can make a
motion, yes.

MR. LOEB: Thank you.
MEMBER GRIFFON: I would move that the Board approve the interim investigation report on the Chevron Richmond refinery fires, and all the recommendations, and the associated video.

MEMBER ROSENBERG: I second that motion.

(Applause.)

MR. LOEB: I will call the vote.

Doctor Rosenberg?

MEMBER ROSENBERG: Aye.

MR. LOEB: Mr. Griffon?

MEMBER GRIFFON: Aye.

MR. LOEB: Doctor Moure-Eraso?

CHAIRPERSON MOURE-ERASO: Yes.

(Applause.)

MR. LOEB: In that case, we have three votes in favor, and it is unanimously passed.

(Applause.)

CHAIRPERSON MOURE-ERASO: I have some very fast closing remarks. I only have
thanks to give. Thanks to the public that has stayed here to the last minute and accompanied us, and we hear from your wisdom and listen to what everybody says.

I would like also to thank the wonderful panel that we have, and the presentations that they make. And also, I would like to thank again the CSB investigation team and the communications department, who were the ones to set up this meeting and allow us to be here.

So thank you very much, and good night.

(Applause.)

(Whereupon, the meeting was concluded.)
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