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INTEGRATED ENERGY POLICY REPORT
LEAD COMMISSIONER WORKSHOP
TRENDS IN SOURCES OF CRUDE OIL

California Energy Commission

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9:00 A.M.

Reported by: Kent Odell

APPEARANCES

Commissioners

Chair Robert B. Weisenmiller, Energy Commission

Commissioner Janea Scott, Lead Commissioner for IEPR and Transportation

Commissioner Karen Douglas, Energy Commission

Panel

Heather Raitt, IEPR Program Manager

Michael Peevey, President, California Public Utilities Commission

Cliff Rechtschaffen, Governor's Office Rail Taskforce

Ken Alex, Governor's Office

Presenters

Gordon Schremp, California Energy Commission

Michael Schaal, Energy Information Administration

Steven Bohlen, California Department of Conservation,
Division of Oil, Gas and Geothermal Resources

William Finn, Tank Car Committee at Railway Supply Institute

Liisa Lawson Stark, Union Pacific

David Wickersham, Union Pacific

LaDonna DiCamillo, Burlington Northern Santa Fe Railway

Laura Kovary, California State Lands Commission

Bob Gorham, Office of the State Fire Marshal, Pipeline Safety Division

Nancy Skinner, California Assembly Member

Ernie Sirotek, U.S. DOT Federal Railroad Administration

Jack Whitley, U.S. DOT Pipeline and Hazardous Materials Safety Administration (PHMSA)

Cliff Rechtschaffen, Governor's Office Rail Taskforce

Gina Solomon, California Environmental Protection Agency

Paul W. King, California Public Utilities Commission

Tom Cullen, Office of Spill Prevention and Response

Tom Campbell, Office of Emergency Services

Alexander Crockett, Bay Area Air Quality Management District

Rick Martinez, City of West Sacramento Fire Department

Caren Ray, San Luis Obispo County

Greg Karras, Communities For a Better Environment

Diane Bailey, Natural Resources Defense Council

Tom Umenhofer, Western States Petroleum Association

Ryan McCarthy, California Air Resources Board

Alan Lloyd, The International Council on Clean Transportation

Public

Kriss Worthington, Berkeley City Council

Karen Hemphill, Berkeley School Board

Linda Maio, Berkeley City Council

Alana Floyd, Berkeley City Council

Jonathan Gaast, Congresswoman Barbara Lee's Office

Dr. Henry Clark, West Coast Toxics Coalition

Kathy Kerridge, Benicians for a Safe and Healthy Community

Nafiah Muhammad, Student, Mills College

Paul W. Rea

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P R O C E E D I N G S

June 25, 2014

9:00 A.M.

MS. RAITT: Good morning. Okay. Good morning and welcome to today's workshop on Trends in Sources of Crude Oil. This workshop is part of the California Energy Commission's 2014 Integrated Energy Policy Report Update, or the 2014 IEPR for short. I'm Heather Raitt, I manage the IEPR.

The Energy Commission is developing the 2014 IEPR Update to address critical energy issues facing the state and to provide policy recommendations to the Governor and Legislature. The 2014 IEPR Update is focused on transportation, particularly the Energy Commission's effort to advance alternative and renewable transportation fuels and vehicles. It will also explore changing trends in the sources of crude oil as well as other topics. Today's workshop provides an important opportunity to share and gather information.

I'll begin by going over some housekeeping items.

Restrooms are in the atrium to the left as you exit the auditorium.

In the atrium there are posted boards with

1 various maps showing information about rail lines.
2 There are two posters of each map to allow more
3 room for viewing.

4 Please note that no food or drink are
5 allowed in the auditorium.

6 Today's workshop is being broadcast
7 through our WebEx conferencing system, and parties
8 should be aware that you're being recorded. We'll
9 post the audio recording to the Energy
10 Commission's website in about a week and the
11 written transcript in about four weeks.

12 Copies of the agenda and workshop notice
13 are available at the entrance to the auditorium.
14 For your convenience there's also a listing of
15 several nearby restaurants.

16 In the interest of saving paper we have
17 not made paper copies of the presentations, but
18 they are available on the Energy Commission's
19 website at www.energy.ca.gov.

20 In the event that seating in the
21 auditorium is full, we have a second smaller room
22 available for viewing the presentations via WebEx
23 on the second floor in room 212. To access the
24 overflow room, take the elevator in the center of
25 the atrium to the second floor, turn right, and

1 then turn right again to go down the hallway and
2 it's going to be the first door on your left.

3 We have a very full agenda this morning,
4 or today, and so this morning we will have opening
5 comments from commissioners and executives on the
6 dais and a series of presentations before breaking
7 for lunch at about 12:15. We'll return after a
8 one-hour lunch break from our presentations.
9 There will be an opportunity for public comments
10 at the end of the day.

11 Since the agenda is very full, we request
12 that the presenters please limit your comments to
13 the time allotted to allow adequate time for all
14 presentations. To help with this, we are going to
15 have folks, two people in the audience to show
16 cards, time reminders, so there will be a yellow
17 card at the three minute mark and a red card to
18 signal it's time to wrap up.

19 During the public comment period we are
20 asking parties to limit their comments to three
21 minutes to ensure that the maximum number of
22 participants have an opportunity to speak. We
23 will take comments first from people in the room,
24 followed by participants on WebEx, and finally
25 from those who are phone-in only.

1 For those attending in person who would
2 like to make comments, please fill out a blue card
3 and give it to Alana Matthews who is sitting
4 outside in the atrium. She's the Energy
5 Commission's public advisor. Blue cards are
6 available with her. And then when you are called
7 upon to speak, please come to the side microphone
8 to make your comments. If you have a business
9 card please give it to Alana.

10 For WebEx participants you can use the Q&A
11 function to tell our WebEx coordinator that you
12 want to ask a question or make a comment during
13 the public comment period, and we'll either relay
14 your question or open your line at the appropriate
15 time.

16 For phone-in only participants, we'll open
17 your lines after we've taken comments from the in-
18 person and WebEx participants.

19 As I mentioned, materials for this meeting
20 are available on the Energy Commission's website.
21 Written comments on today's topics are due close
22 of business July 10th. And the workshop notice
23 which is available at the atrium and on our
24 website explains the process for submitting
25 written comments.

1 With that I'll turn it over to
2 Commissioner Scott for opening remarks.

3 COMMISSIONER SCOTT: Great, thank you
4 Heather, and good morning. Can you all hear me
5 through here? Yes? Okay, great. So let me take
6 it out and hold it closer, if I can.

7 Good morning. I'm Janea Scott from the
8 California Energy Commission. I'm the
9 Commission's public member and I also lead the
10 2014 Integrated Energy Policy Report Update as
11 well as transportation issues. I would like to
12 welcome everyone to our workshop today, which is
13 focused on the changing trends in sources of crude
14 oil coming into California.

15 We're holding this workshop as part of the
16 Energy Commission's 2014 Integrated Energy Policy
17 Report Update, which is focused this year
18 primarily on transportation issues.

19 Over the last year we've seen increased
20 shipments of crude oil being delivered into
21 California and across the United States. There
22 have also been a number of incidents that have
23 raised concerns about potential threats to public
24 safety associated with these deliveries.

25 There are multiple agencies, federal,

1 state and local, that have a role to play and
2 today's workshop will help provide insight into
3 which agencies oversee what pieces.

4 The goals of today's workshop are to
5 provide an overview of the state, federal and
6 local roles and responsibilities related to this
7 issue; to gather information and increase
8 transparency in facts and data about crude
9 deliveries; and to better understand what is
10 needed to provide for public safety and fully
11 respond if an accident were to occur.

12 Over the course of the day we'll hear
13 perspectives from federal, state and local
14 agencies, rail operators, the oil industry, and
15 environmental organizations. We'll conclude
16 today's presentations by hearing about how these
17 trends relate to our environmental and energy
18 policies.

19 I am pleased to be joined today by, to my
20 right, Bob Weisenmiller, the Chair of the
21 California Energy Commission. Next to him
22 California Public Utilities Commission President
23 Michael Peevey. Right next to him is Cliff
24 Rechtschaffen, the Senior Advisor from the office
25 of Governor Edmund G. Brown, Jr. And then in the

1 row right behind me I have my fellow Commissioner
2 Karen Douglas at the Energy Commission, and Ken
3 Alex, the Director of the Governor's Office of
4 Planning and Research and a Senior Advisor from
5 the Office of Governor Edmund G. Brown, Jr.

6 And I will now turn it to Chair
7 Weisenmiller for his opening remarks.

8 CHAIR WEISENMILLER: Thank you, Janea.
9 Thank you all those here today. This is a good
10 opportunity, I think, to step back, look at the
11 overall picture of how the various agencies relate
12 to this issue and what the coming trends are.
13 It's sort of one of the things that I'd have to
14 say the Independent Energy Policy Report is
15 designed to do.

16 And I certainly want to thank Commissioner
17 Scott and Commissioner Douglas for organizing
18 today's event. Certainly would like to thank
19 President Peevey for his participation. Also
20 Cliff and Ken.

21 Again, I think this is going to be a very
22 informative workshop and help us frame actions for
23 the state in the area that goes anywhere from
24 federal to state to local governments, and it's
25 important we all work very well together on this

1 to respond and also we're prepared if anything
2 does go wrong.

3 So with that, I do have to note that with
4 my schedule I'm going to be leaving before this is
5 over but near the end of the day around four-ish.
6 I have commitments in Southern California.

7 MR. PEEVEY: Well, hi, my name's Mike
8 Peevey, I'm the President of the State Public
9 Utilities Commission. It's a pleasure to be with
10 my colleagues from the Energy Commission and the
11 Governor's Office today.

12 I would just say I'm here to learn, very
13 frankly, and consume a bunch of information that I
14 hope is -- you can't hear me? That's a first
15 time. All right. Well, I'll pull the mic closer
16 to me because my voice usually is pretty
17 resounding.

18 In any case, I'm here to learn. We have
19 various enforcement responsibilities at the PUC in
20 this regard, but my really sole purpose in being
21 here along with our Deputy Executive Director
22 Brian Turner -- put up your hand, Brian -- from
23 the Public Utilities Commission, is to learn more
24 about this very, very important crucial and timely
25 topic. So Thank you very much.

1 MR. RECHTSCHAFFEN: Thanks very much.
2 Thanks to the Energy Commission for holding this
3 timely and important hearing and to the PUC for
4 participating. I want to thank you for holding it
5 in such an auspicious location. Since I work in
6 Sacramento but live in Oakland I could ride my
7 bike here, which I very much appreciate.

8 There's a great deal of interest on the
9 part of the Legislature, the public, local
10 emergency responders, elected officials in this
11 topic, so it's really important that we pull
12 people together to talk about it. There haven't
13 been very many forums where we've brought together
14 all the stakeholders at federal, local, NGO,
15 community, industry and so forth, so that's very
16 valuable here.

17 We've also been working internally as a
18 state among the agencies to fashion responses to
19 deal with this issue. You'll hear about that more
20 today. We haven't had too many opportunities to
21 have a public dialog about this and have input
22 from the community, so that's one of the valuable
23 things we look forward today. Thanks again and
24 look forward to today's program.

25 MR. ALEX: So it's nice to be here in the

1 back row. I feel like I'm in the House of
2 Commons. So I'm Ken Alex, I'm the Director of the
3 Office of Planning and Research, which actually
4 deals with land use issues, so obviously part of
5 our concern and set of issues revolves around how
6 oil is brought to the state and what the
7 implications are, so I very much want to thank the
8 commissioners and the Commission for having the
9 chance to have this workshop today.

10 The Governor is very fond of noting that
11 the State of California we drive 332 billion
12 vehicle miles a year, and that that actually takes
13 until we come up with alternatives, it takes oil.
14 And as an ongoing set of challenges in climate
15 change we also need to leave two-thirds of the
16 known oil reserves in the ground. So we're
17 wrestling with those two potentially conflicting
18 set of issues and part of it is how we obtain oil
19 for our refineries in California and how we begin
20 to wean ourselves off of it, so we will hit on
21 those topics today and very much look forward to
22 the panels.

23 COMMISSIONER DOUGLAS: All right. I'll be
24 brief. I'm Karen Douglas, I'm the attorney
25 Commissioner on the Energy Commission and I've

1 been looking forward to this workshop for some
2 time. It's a real chance for us to learn a lot
3 from a really great set of speakers from the
4 public sector, private sector and some nonprofits.

5 We really need to make sure that, you
6 know, I will especially be listening closely to
7 agencies and others talk about information
8 sharing, data needs. It's really important in
9 this very complex area to be sure that policy
10 makers have access to good information, the best
11 information possible in the policy making role.

12 Obviously, we need to make sure that the
13 emergency response role and function is as well
14 informed and thought through in advance as
15 possible. And we need to find ways to be very
16 responsive to public interest in this topic and
17 we're certainly aware that there's a lot of
18 interest. It's a very important topic and it's
19 being followed closely at really all levels of
20 government and in the public.

21 So on that note, I want to thank Berkeley
22 City College for agreeing to host this event. It
23 was challenging to find a venue of sufficient size
24 in the Bay Area within the timeframe we had to
25 plan and the City College really stepped forward

1 and made it possible for this event to be held
2 here, so we really appreciate that. And with that
3 let's get into the presentations.

4 COMMISSIONER SCOTT: Thank you. Thank you
5 very much for all of your opening remarks, and
6 also for everyone for being here with us today.

7 As you can see from our agenda we have a
8 robust and information-packed day. And so in
9 order to do our best to keep on schedule, we will
10 be strongly encouraging our panelists to keep to
11 their time allotted. So I have a timekeeper who's
12 sitting right back here and is going to wave the
13 card for you. When he raises the yellow card you
14 have about three minutes left and when he raises
15 the red card that will be about time for you to
16 please summarize. And then we'll go ahead and
17 move on to our next panelist.

18 I want to remind folks from the public
19 that if you would like to make comments during the
20 public comment period there are blue cards for you
21 to fill out. Just put your name on the card and
22 they're right up front with our public advisor, if
23 you saw her as you were walking in the room. So
24 please, be sure to get your cards and leave your
25 public comments, so when we get to that portion we

1 will be able to acknowledge you.

2 And now I will turn it over to Charles
3 Smith, (sic) the Senior Fuel Specialist at the
4 Energy Commission to get started.

5 MR. SCHREMP: Thank you. Good morning,
6 welcome. I'll be taking you on a little sort of
7 a background overview to sort of start the
8 workshop off with a lot of information, a lot of
9 contact siting, data, and that'll, I think, help
10 set the stage for some subsequent speakers and
11 their respective areas of expertise.

12 So first of all, the Energy Commission
13 does collect an awful lot of information. The
14 information I'll talk about today is specific to
15 my arena in the Commission. It has to do with
16 transportation fuels, crude oil and alternative
17 fuels.

18 So we have a regulation, the Petroleum
19 Industry Information Reporting Act, or PIIRA as we
20 call it, it has confidentiality provisions that
21 allow us to reach out to companies and get very
22 sensitive, business sensitive information, and
23 hold it in confidence. And then we actually do a
24 lot of analysis and aggregated information is put
25 back out into the public. So it's a very

1 important tool we use to understand what's going
2 on and be able to monitor what's going on and it's
3 very germane for this issue, crude oil, and
4 especially crude by rail. So a lot of
5 participants provide information, refiners,
6 retailers, storage providers, transporters like
7 pipeline companies and railroads. And it's all
8 kinds of different frequencies.

9 So I think with regard to just crude by
10 rail we actually collect from the two Class 1
11 railroads that bring the crude oil initially into
12 California, so to reporting entities it makes it
13 easier to make sure we get all the data. And then
14 we circle back and get it from refineries as well,
15 who are the ultimate recipients. So that
16 information specifically has where it's coming
17 from, maybe the loading terminal, and then the
18 volume per rail car.

19 So that's sort of the basis of what we
20 need, but there is lots of other information that
21 people are interested in that we do not receive
22 from the rail companies, and so that's where
23 exactly do the rail cars go and what type of crude
24 oil, whether it's from Bakken light crude oil or a
25 heavy Canadian from oil sand development, so we

1 don't have that kind of information in the data
2 that we do collect.

3 So we also do not receive information on
4 when the cars will be coming through California in
5 advance, so that's information that doesn't get
6 sent to the Commission.

7 So I'll provide you an overview. We'll
8 start off with, yes, I think somebody mentioned
9 many billions of miles of vehicle miles traveled
10 in California. So it's a lot of gasoline, a
11 little over 14-1/2 billion gallons of gasoline,
12 but it's all not just gasoline from petroleum. We
13 actually do use ethanol, it's now 10 percent by
14 volume. It's in every single gallon of gasoline
15 and a little bit of E85 in there. But gasoline
16 demand has been declining. A lot of that's due to
17 the economic downturn, but as time goes by more
18 fuel efficient vehicles being taken into the mix,
19 and also high-sustained prices are sort of getting
20 people to maybe drive their cars a little bit
21 less. But ethanol has increased significantly,
22 and like I said, it's 10 percent by volume.

23 Diesel fuel has been about flat from 2003
24 to 2013. It has gone up and it's gone down, but
25 it's been recovering as the economy recovers post-

1 2008. And what's more interesting is lately we're
2 seeing a significant increase in the amount of
3 renewable fuel, biodiesel to some extent, but
4 renewable diesel. And this is really driven by
5 the low-carbon fuel standard. You would want to
6 use something like renewable diesel, low carbon
7 intensity, to displace diesel. So a big increase
8 as of 2013 a little over 5 percent of diesel
9 (inaudible) is renewable in nature.

10 So what is the infrastructure to get all
11 this fuel out? Well, it's basically an
12 interconnected infrastructure. Refineries are
13 sort of the nerve center if you will, lots of
14 pipeline, there's marine, there's storage tanks,
15 and more recently we have rail is now an element.

16 So this graphic on the map shows where the
17 fuel is coming into or whether it's feedstock like
18 oil on the blue lines, marine elements. The black
19 lines are product pipelines. Mainly Kinder
20 Morgan, only the main common carrier pipeline in
21 California for refined product movements. And as
22 you see, we look at this system as a Southwest
23 system, because it's interconnected. Most of the
24 fuel in Nevada is provided by our refineries in
25 California and about half of the fuel in Arizona

1 from refineries in Southern California.

2 So where are those refineries? Certainly
3 in San Francisco Bay area and in Southern
4 California and a smaller cluster in the
5 Bakersfield region where most of the crude oil is
6 produced. So refineries like to be near water.
7 That way marine vessels can bring in large
8 quantities very economically of crude oil
9 feedstock and then export some products, so it's
10 natural to find them in coastal areas or areas
11 that have close proximity. And they do process,
12 in 2012 I think, 1.6 million barrels a day. Their
13 capacity is closer to 2 million barrels a day of
14 crude oil, but they don't always operate at 100
15 percent capacity.

16 Now some of the data for 2013 shows where
17 is that crude oil coming from, so as you should
18 see, most of it is by marine vessel, foreign
19 sources predominantly, and Alaska. It's all by
20 marine vessel. And then there is a small amount
21 more recently from rail, that's foreign and we're
22 also getting certainly our own crude oil
23 production in California is transported to
24 refineries prominently via pipeline.

25 So once they create the fuels it goes

1 mainly into pipeline infrastructure to 60
2 distribution terminals. That's where the tanker
3 truck loads before it goes to a retail station or
4 truck stop. And it's a lot of trucks, because
5 it's a lot of gasoline, 40 million gallons every
6 day. And so that's a lot of truck trips, almost
7 5,000 gasoline truck deliveries a day. Diesel not
8 as much fuel, so as a consequence fewer
9 deliveries, about 1,200 tanker truck deliveries a
10 day.

11 And I already mentioned the pipeline
12 interconnection and how that goes to the
13 neighboring states, and here's some of the
14 information on the supply percentage. And this is
15 a map of Northern California, the Kinder Morgan
16 system. As you see, it goes from the Bay Area
17 then all the way to Chico and then all the way up
18 into Sparks, Nevada, all the way down to Fresno.
19 So that is where all of the -- that's how
20 petroleum products get to their destinations,
21 their distribution terminals most efficiently and
22 economically in the pipeline system.

23 One important point about the pipeline
24 systems, no connection Northern and Southern
25 California. There's a separation where Tehachapi

1 is, so you can't shift production and move it all
2 on pipelines, so that's why there's a refinery
3 problem in Southern California. You have to move
4 more products either by tanker truck or by marine
5 vessel. And that's where you have marine
6 facilities an integral part of refinery operations
7 and logistics, mainly for feedstock receipt and
8 then getting out some refined products.

9 And more recently refineries are exporting
10 more and more refined products to foreign
11 countries. Why? Cheaper crude prices have made
12 U.S. refineries much more competitive in the
13 international arena. So in 2012 the U.S. set a
14 record for exports of refined products to foreign
15 countries. 2013 the record was broken. 2014
16 likely, maybe to break that record, but maybe EIA
17 can talk about that in a little bit.

18 So rail, this is primarily why we're here
19 today to take a little bit more focus on rail.

20 Rail activity is an integral part to
21 bringing in ethanol. We're not self-sufficient in
22 ethanol, so we bring a lot of it in from the
23 Midwest. Two places in Southern California that
24 receive unit trains, over 100 cars at a time, of
25 ethanol. A very efficient means of bringing it,

1 but it's a lot of fuel and like tanker truck
2 deliveries for gasoline, it's about a 500 tanker
3 truck deliveries statewide every day. No,
4 California does not have a train-receiving
5 facility for ethanol. They used to, that would be
6 Kinder Morgan Richmond, it's now transitioned over
7 to a crude offloading facility. And why is there
8 ethanol being used? Primarily because it's the
9 federal requirement, oxalates to reform the
10 gasoline.

11 So rail is also very important for propane
12 and butane, refineries that produce this export
13 butane to gasoline (inaudible) component. And
14 also for other feedstocks or things like sulfuric
15 acid to run some of their process units. And more
16 importantly, more recently, excuse me, rail.

17 So where is the crude oil coming from?
18 This is showing you a longer trend. Clearly we
19 used to have a lot more California and Alaska and
20 foreign resources filling in the balance. "Oh,
21 how much more do you need? Okay. Let's get some
22 foreign crude oil." Now, as you see it's over 50
23 percent is foreign, so this is coming because
24 Alaska and California production continues to
25 decline. Mainly Alaska recently. California sort

1 of looks like it might be rebounding a tiny bit,
2 but we'll get into that in just a little bit. So
3 where does it come from on a foreign basis? The
4 Middle East, and closer to home, South America.
5 Those are the primary places where we receive
6 crude oil.

7 So just looking at production in
8 California, as you see a very long-term trend of
9 decline. California oil production has been doing
10 so for well over a hundred years, so this is a
11 significant 48.9 decline between the peak and
12 2013, but as you see almost it inched up a little
13 bit in 2013.

14 Why it's been declining is just its older
15 fields, they have natural declines over time, but
16 not from any effort to drill new wells as you see
17 from this chart. The dark line is the number of
18 producing wells that's gone up rather
19 significantly. And what's happened to the amount
20 of crude oil per producing well? It's gone down
21 the opposite direction.

22 So this is what happens. You've got old
23 mature fields that you can keep drilling, but sort
24 of diminishing returns. So right now it's about
25 10.4 barrels per day per producing well in

1 California. And compare and contrast North Dakota
2 Bakken is about 8 times greater, almost 90 barrels
3 per day per well in North Dakota. So clearly a
4 newer field that's being developed up in Bakken
5 and a different type of oil and a different type
6 of oil extraction.

7 So how does it get to Northern California
8 refineries? Well, you see these pipelines, three
9 main trunk lines moving from Southern California
10 up to the Bay Area, and there's the data from
11 2012. We're still in the process of completing
12 our analysis for 2013. Crude oil balance, well,
13 we're not done, I apologize for that. But as you
14 see, it's really marine movements and you have
15 some pipeline movements going to the Bay Area, so
16 40 percent of the crude oil Bay Area refineries.
17 The balance, 60 percent, Bakersfield and Southern
18 California.

19 So the U.S., not like California
20 declining, a reversal, and this is because a much
21 greater use of hydraulic fracturing in conjunction
22 with horizontal drilling and improved
23 understanding of what the formations are through
24 much greater seismic analysis of these formations.
25 And so the industry is becoming very smart and

1 smart means you can reduce your drilling costs.
2 And the drilling is becoming much more effective,
3 in some cases drilling up to six holes from the
4 same drill rig and the same location, directly
5 drilled from the same path. So efficiency of the
6 drilling rates goes up and the EIA can also talk
7 to that.

8 So crude oil production? Highest it's
9 been since 1988, so a remarkable turnaround. As
10 you see, Texas is a big one and North Dakota is
11 higher than it's ever been, but Texas is as high
12 as it's been since 1977. Will it get to the peak,
13 the near-term peak I guess back in '86? Likely.
14 Will it get to the all-time peak of 10 million
15 barrels a day? Don't know about that, so you can
16 talk to EIA.

17 So where has it been coming from? Texas,
18 1.8 million barrels a day more. And this is from
19 January of 2010, not too long ago, so a remarkable
20 resurgence. This is Eagle Ford and this is part
21 of the Permian and then you have North Dakota is
22 the Bakken, so those are the two places.
23 California about the same, not much of a change.
24 Down a little bit in Alaska, it's a bit more of a
25 decline.

1 Where is the oil coming from? These tight
2 oil, shale oils plays and this red line is
3 basically a million barrels a day. And that's
4 sort of a super-giant field that you hear about in
5 Saudi Arabia or China. And these three fields are
6 all in excess of that in the United States, so
7 it's sort of a remarkable renaissance if you will.

8 So how do you get all that oil to the
9 recipients, the refiners? Well, by pipeline. As
10 you can see from this chart, we don't see a lot of
11 pipelines going from Canada or North Dakota or
12 Texas to California. That's right, there hasn't
13 been a need. We've been self-sufficient in crude
14 oil or bringing it in by marine vessel. No
15 pipelines can get it to California that way.

16 And then you also can't export domestic
17 production. You can to Canada and there are some
18 other exceptions, but there are export
19 restrictions. And so these are sort of preventing
20 a company, a domestic producer, just bringing it
21 to the coast and export it to China or some other
22 country. You really can't do that, you have to
23 apply to get a permit to do that.

24 So I've heard -- there's been some people
25 said, oh well, they just want to bring crude by

1 rail into California, so they can get it exported.
2 Well, you really can't do that. And so this is an
3 issue that is getting a lot of attention recently,
4 because of the quantity of crude oil produced and
5 how full the inventories are getting in the United
6 States.

7 So what happens? The producer says, well,
8 gosh I want to get my oil to market and if the
9 pipeline's full, how do I do it? Rail, next best
10 option. Next best, i.e. more expensive and so
11 they have to discount their prices. So they
12 discount their price enough the rail tariff works.
13 The farther you go, the higher the cost. But as
14 you can see from Tesoro's presentation here, they
15 expect a lot more rail to be moving or to be
16 moving by rail and discounts to remain in place
17 such as the tariff is workable.

18 So rail movements as a consequence have
19 gone up. This quarterly data through the first
20 quarter of 2014 shows that 11 percent of the U.S.
21 production of crude oil is moved now by rail, so
22 rather remarkable.

23 So how do they load that? Well, you need
24 the rail cars, but then you could bring those rail
25 cars to a place that's connected to pipeline and

1 storage tanks. Or tanker trucks loaded with crude
2 oil from the field come in and they unload into
3 storage tanks. And in some cases they load
4 directly from the tanker truck to the rail car,
5 it's called transloading, in the bottom photo
6 here. So there's various means of doing that, and
7 then when it goes to its customer it's either a
8 refinery location that's the final destination or
9 it's a hub. What does that mean? It's a place
10 where the rail cars are unloaded and then the oil
11 can now get into a system that gets to the
12 refineries. Usually through existing trunk lines
13 for crude oil distribution.

14 So California's not different than many
15 other places. We've seen an uptick in crude by
16 rail, a very small amount in 2012, 2013 about 1
17 percent of our crude oil needs were met by rail,
18 almost a six-fold increase from the previous year.
19 And this chart shows that most of that was going
20 into Southern California. And the statistics,
21 9,600 rail cars for the year and an average of
22 about 660 barrels per rail car.

23 So where is that happening now? And
24 that's two places: Kinder Morgan in Richmond and
25 SAV Patriot rail yard in McClellan airbase in the

1 Sacramento region. So rail cars come in and then
2 they're transloaded to tanker trucks, so it's a
3 small amount, a little over 3,000 barrels per day.
4 And the two facilities combined are permitted to
5 do about, you know, over six times that. But
6 they're not due to economics limitations, they're
7 just not working at maximum capacity.

8 Southern California including Bakersfield,
9 it has crude oil refining. This is the picture
10 you see there and three locations in Sothern
11 California: Carson, Vernon and Long Beach are the
12 three destinations. And we're trying to pin down
13 exactly what all of those collective permits allow
14 them to do on a maximum basis, but we don't have
15 that answer yet, but should have that information
16 soon.

17 So most recently crude oil movements are
18 still up in California. Two million barrels in
19 the first four months and if you compare that to
20 the first four months of 2013 it's up 90 percent.
21 So yes, it does continue, but I think in the
22 seasonal perspective it's a little bit lower than
23 it is say later in the year, because of refinery
24 maintenance that usually occurs in the first
25 quarter.

1 So we're tracking five projects for crude
2 by rail that we think are active and moving
3 forward and two in Northern California, two in
4 Bakersfield and one San Luis Obispo County. So if
5 all of them get their permits, customers lined up,
6 financing approved by their boards, construct and
7 operate at full capacity that's 23 percent much
8 more clearly than 1 percent in 2013. Rather a
9 significant increase in rail activity and in
10 crude.

11 So just brief looks at these, and these
12 have in most cases links to information on these
13 projects: Valero Benicia in Northern California,
14 it's about 70,000 barrels a day. They have an
15 environmental impact report just out and so that's
16 out for a 45-day comment and the lead agency is
17 the city.

18 And the WesPac Energy Project, it's across
19 the water if you will. And it's more than just
20 crude by rail, that's an element. But it largely
21 depends on the marine terminal to actually bring
22 in vessels for crude oils and load vessels of
23 crude oil. And so that project doesn't have a
24 recirculated EIR out yet, and should have later
25 this year. So there's no date set for a hearing

1 on that or a comment period set at this point.
2 And this just shows why the project is there,
3 because it has access to the pipelines that
4 already exist in the area that feed four of the
5 five Bay Area refineries, the only exception being
6 Chevron Richmond.

7 Bakersfield, two projects. One is the
8 Alon Refinery, it used to be Big West Refining,
9 and the other is not at a refinery location, but a
10 location that can get into the pipeline system by
11 Plains All American. What's important to note,
12 that's under construction and will be complete
13 probably fourth quarter of this year, so that will
14 become operational and doesn't need anything else.
15 They have a permit for a 5.9 mile pipeline
16 connection that will allow for, I think more
17 efficient pipeline deliveries from that terminal
18 once that pipeline permit is approved and
19 constructed.

20 So Santa Maria Refinery, this is also
21 crude by rail, a little over 40,000 barrels per
22 day and that might be heard sometime later this
23 year. And we have someone from the county who
24 maybe can give us an update on where that project
25 is.

1 And the final project we were tracking,
2 Valero, has withdrawn their permit for South Coast
3 Air Quality Management District.

4 Now, we are aware of other projects and
5 likely (inaudible) looking at, so just two I want
6 to mention.

7 Port of Stockton has a marine terminal,
8 but sort of just doesn't seem to be making a lot
9 of progress at this point, so we haven't included
10 that in our estimate.

11 Nor have we included Questar, a more
12 recent project that's being considered. This
13 brings the rail cars out in the desert area,
14 connects to an existing natural gas pipeline
15 that's idle and would be reconverted to move crude
16 oil. And the important element of that, it's
17 connected, gets into the refineries in L.A., in
18 Long Beach, and gets into the plumbing system. So
19 but no permit application yet at this point,
20 they're just doing engineering and assessment.

21 So that's California, but West Coast
22 there's been a lot of crude by rail. They started
23 earlier and if you hearken back to that slide I
24 showed the cheapest rail tariff. That's why they
25 were looking at these projects earlier. And so

1 there's several projects and there's going to be
2 almost 200,000 barrels. And as you saw in
3 California 17,000 barrels a day was being brought
4 into California in 2013. So this is a much
5 greater capability.

6 And but there are two, I think projects,
7 one especially of note, Tesoro, and this is on the
8 Columbia River, Tesoro-Savage. This is designed
9 to bring in two unit trains a day, load up the
10 marine vessel, there's no refinery there, and then
11 it goes to West Coast refineries. So that's the
12 design of this facility and that's still in its
13 permit stage. And Shell Anacortes has a project
14 as well and that's a little over 60,000 barrels a
15 day.

16 So can refineries take this oil and is
17 that okay? Well, they'll have to change their
18 process equipment, but they do have to be aware
19 that there are some operational issues they have
20 to keep in mind about waxy deposits, sludges
21 developing and even a potential additional risk of
22 corrosion unless it's attended to properly by the
23 use of these lighter crude oils.

24 And another aspect is when you take a
25 lighter crude oil and you cook it you get more

1 gasoline in the first step in the refining
2 process. And if gasoline demand is declining in
3 California and in the U.S. you don't want that.
4 So what are the refineries doing? Investing a lot
5 of money now to handle lighter crude oil. Those
6 projects aren't complete clearly, but will be in
7 the near term, so there's a lot of it and that's
8 just a laundry list.

9 A couple of final slides here. We don't
10 just do crude oil and don't keep track of that at
11 the Energy Commission, we actually have an awful
12 lot of other programs. And one I'd like to
13 highlight, AB 118, relegates we have alternative
14 fuel programs and it's for, it's research, but
15 it's also for infrastructure, advanced biofuel
16 development. And so this is an example, about a
17 half a billion dollars, 2009 through current, and
18 the bottom chart shows how those projects that are
19 currently active are broken down.

20 The Air Resources Board also has programs
21 and they're designed to, along with the California
22 Energy Commission policy, to reduce our dependence
23 on petroleum. So the low carbon fuel standard is
24 designed to reduce the per gallon carbon intensity
25 of fuels. So that is creating a situation where

1 we're seeing a more diverse mix of renewable
2 fuels. Ethanol from say sugar cane and more
3 biodiesel coming from like used cooking oil and
4 tallow and things of that nature, and renewable
5 diesel. So that's driving those, greater uses of
6 those.

7 And so the final slide has to do with
8 there is a crude oil element of the low carbon
9 fuel standard, and that's the carbon intensity of
10 the crude oil coming in, and if that changes and
11 becomes more, I guess has a greater amount of
12 carbon, then there's some other steps the Air
13 Resources Board has to take to sort of offset that
14 incremental carbon debt, if you will. And this is
15 just showing you what the 2012-2013 volumes are
16 and these are the top 16, about 72 percent of the
17 crude oils. And the red number there is the
18 average, so you see some crude oils are lower
19 carbon tendencies, some are higher. And then at
20 the bottom are some of the heavy crude oils from
21 Canada or synthetics that are coming in now and
22 where their carbon score is. But you see some red
23 numbers with an asterisk at the end? That's
24 because a carbon intensity score has not been
25 developed for like, Bakken crude and Eagle Ford

1 crude at this time, so I think the Air Resources
2 Board is working on that.

3 I thank you for your time and attention
4 and I think yes, we'll be taking questions after
5 the first panel's concluded. Thank you.

6 MR. SCHAAAL: Thank you, Gordon. My name
7 is Michael Schaal, I'm the Director of the Office
8 of Petroleum and Natural Gas and Biofuels Analysis
9 within the United States Department of Energy's
10 Energy Information Administration.

11 Before I begin I'd like to mention that
12 while I have been working within the Department of
13 Energy's EIA for the past eight years in the
14 subject matter, I have deep roots to California.
15 My mother was born in Oakland. I grew up in
16 Northern California, I'm the product of Durham
17 High School, I graduated from California State
18 University Chico. I spent eight years with
19 Bechtel as an engineer working on first-of-a-kind
20 technologies. I then went on and got my Mineral
21 Economics degree from the Pennsylvania State
22 University, spent 11 years in consulting prior to
23 joining the EIA in 2005.

24 And at that time the trend of the day was
25 the rapid growth of ethanol, and short on that

1 heels was the rapid rise of shale gas across the
2 United States. Following close on the heels of
3 that phenomenon has been the rapid increase in
4 tight oil and shale gas, tight oil, that leverages
5 the same technologies that were developed for
6 horizontal drilling and hydraulic fracturing. So
7 what I'll be doing is providing a national
8 perspective on some of these issues with perhaps
9 some perspective on impacts on California.

10 So a little bit about EIA. EIA is an
11 independent agency created by law within the U.S.
12 Department of Energy to provide policy makers and
13 the public with unbiased statistics, analyses and
14 forecasts for policy makers and the general
15 public. As a consequence, EIA does not propose or
16 advocate policy decisions. We just develop the
17 statistics and the analyses to help explain the
18 way things are and the way things could be. We're
19 often called upon to provide service reports to
20 Congress in answer to questions such as climate
21 change, what the impact might be of various
22 policies that would affect the energy economy, and
23 we provide those analyses to Congress and the
24 public at large.

25 Many of you who've been involved with

1 energy have probably been exposed to EIA's
2 statistics and analyses at some point. We produce
3 weekly, monthly and annual data. We also conduct
4 some real-time analysis, and particularly what
5 I've highlighted is *This Week in Petroleum*, which
6 provides us an opportunity to provide an analysis
7 of various topics such as growth of crude by rail,
8 changes in petroleum markets that might be
9 noteworthy to policy makers, say a rapid rise in
10 prices as a result of say refinery outages. And
11 this provides us with a means of communicating an
12 analytic context for these phenomenon.

13 We also produce monthly a short-term
14 energy outlook, which provides roughly a two-year
15 monthly forecast of the energy economy, much of
16 which is influenced by external phenomenon such as
17 global crude oil markets.

18 Once a year we produce an annual energy
19 outlook and also an international energy outlook,
20 so many of our long-term structural issues within
21 the energy economy are examined within these
22 projections. And within these projections we also
23 consider various scenarios of considering unknowns
24 with regards to the energy infrastructure and the
25 growth of that infrastructure.

1 So one of our more recent publications
2 launched in October of 2013 has been our *Drilling*
3 *Productivity Report*. This was a result of us
4 seeing how quickly this rise in crude oil
5 production was occurring in different parts of the
6 United States. And indeed it was six shale plays
7 in particular account for nearly 90 percent of the
8 domestic crude oil production growth and nearly
9 all of the natural gas growth. And for that
10 reason we developed a methodology that allows us
11 to track rigs and also understand the productivity
12 of these rigs. Gordon mentioned that these rigs
13 have been able to reduce costs by being more
14 efficient at drilling these wells. And indeed,
15 the industry has through technological innovation
16 improved the rate of being able to drill these
17 wells and also be more productive in terms of the
18 oil and natural gas production for each well
19 drilled.

20 And this is an example for the Bakken area
21 where Bakken oil production, we're estimating will
22 exceed 1 million barrels per day in June based on
23 the drilling activity that has occurred all the
24 way up until this time. What we have found is
25 that it takes about two months from a drilling rig

1 beginning a well to the time that a well begins
2 production. And as we've looked at these
3 descriptive statistics we've found that these rigs
4 have become exceedingly more productive over time.
5 In 2007 we estimated that each rig produced 100
6 barrels per day of new production. By 2014 that's
7 increased to 500, a five-fold increase in the
8 amount of crude oil production produced by each
9 rig in each month. And therefore when one is
10 looking at the movement of rigs and in some areas
11 there would be a decline in rigs, there wouldn't
12 necessarily drop-off in production. Indeed, in
13 some cases production was actually increasing.
14 And this has been a relatively interesting
15 phenomenon as we've progressed.

16 So as I mentioned, there are about six
17 plays nationwide that are responsible for the
18 majority of the crude oil and natural gas
19 production growth. But shale plays are located
20 across the United States. This is an EIA chart
21 from a few years ago that looks at these plays
22 across the United States. Indeed, there are other
23 plays that are shale that are just not amenable to
24 the technology, because the mineralogy and other
25 factors make that play not amenable to that

1 technology.

2 So this chart shows on the left the
3 overall growth in tight oil production. As you
4 can see, over the course from 2000 until
5 approximately 2008-2009 fairly steady growth.
6 There had been production from these plays over
7 time at a fairly low level, but you could see how
8 the application technology, which had been
9 transferred from natural gas in many respects, has
10 been very effective at unlocking oil that had been
11 held within the source rock or the formations next
12 to the source rock. And indeed we're up to just
13 over 3-1/2 million barrels per day of tight oil
14 production in the United States through May of
15 2014.

16 Now, one of the drivers of this activity
17 is the nature by which the oil's produced. I
18 referred to the initial production rates
19 increasing five-fold in the Bakken over the course
20 of the last few years. This oil and natural gas
21 production is characterized by high initial
22 production rates, which is very high production in
23 the first month or two followed by steep declines
24 in production where by the 12 month it's typical
25 that the well will be producing 60 or 80 percent

1 less oil or gas than that first month of
2 production.

3 Now, what that has done if you look at
4 this from an economics point of view and from a
5 driller's point of view, this front loads their
6 return on investment. They get the majority of
7 their commodity, which they sell to produce
8 revenues in those first early years. This is
9 different from the way oil and gas production has
10 proceeded in the past where you may have
11 experienced declining curves not anywhere to the
12 level that's experienced with tight oil and shale
13 gas.

14 And I put up the natural gas side on the
15 right to point out another phenomenon, which is
16 the industry learns where the highest returns
17 exist. And in this what you'll see is that on the
18 bottom part, which is the Barnett, which was the
19 earliest application or successful application of
20 the technology that produced significant amounts
21 of shell gas. That was then the drillers moved
22 their attention from the Barnett to the
23 Haynesville. Then they moved from the Haynseville
24 to the Marcellus and the Eagle Ford. And it's
25 very clearly seen within the production here as

1 the capital investment has moved from where the
2 drillers were active to where they could see they
3 could have higher rates of return. And that's a
4 phenomenon that continues to exist, this ability
5 to move assets, not just within plays but across
6 the country in order to achieve higher rates of
7 return, which has led to significant increases in
8 production.

9 So within our short-term energy outlook
10 this chart shows the bars, the annual changes in
11 production. And the line and our red on the right
12 in the line shows total crude oil production, red
13 off to the left we're exceeding 13 million barrels
14 per day. And as Gordon mentioned, we've had these
15 rather dramatic increases.

16 And indeed the British Petrol, BP's
17 statistical analysis of the global energy system
18 has been recently released and it's a very nice
19 succinct summary of energy issues on a global
20 basis. And not only was 2013 a record year in
21 U.S. crude oil production growth, it's also world
22 class in that, according to their measures, it's
23 the seventh or ninth largest one-year increase in
24 production by any country in world history. And
25 if you discount the impact of bringing spare

1 capacity online, it is perhaps even more or higher
2 level production in terms of changes in production
3 for a country in a year.

4 So some of the interesting aspects of this
5 increase in crude oil production is that it's
6 consisted primarily of lighter sweet crude oil and
7 that 96 percent of the 1.8 million barrels per day
8 of production growth between 2011 and 2013
9 consisted of an API gravity of 40 plus. Now,
10 API's measure is specific gravity of crude oil
11 where an API gravity greater than 10 means that it
12 floats on water. And the benchmark crude oil for
13 many is the West Texas Intermediate, WTI, or the
14 Brent Crude, and that has an API gravity of about
15 38 or 39 degrees by comparison.

16 And what we're finding is that, as you can
17 see on this chart, which it shows the growth of
18 U.S. crude oil by tight from 2011 in forecast
19 through 2015, you can see that the increase in
20 this production has occurred for the light aspects
21 above 40, which is shown by the orange, the green
22 and the orange and the -- or the yellow and the
23 red above, up to an API of 50 plus. This chart
24 breaks the same information down into year-by-year
25 differentials. And here you can see that over the

1 last couple of years it's been the API in the 40
2 to 45 range that has experienced the greatest
3 growth in production. We're forecasting that
4 there'll be a decrease and a shift as much as
5 possible to some of the lower API ranges, the
6 heavier crudes. And by 2015 we're expecting that
7 some crudes resulting from projects off in the
8 gulf of Mexico will bring in some additional
9 heavier crude.

10 The exploration production firms are
11 actively doing what they can to respond to market
12 prices and they're looking to drill for lower API
13 crudes, heavier crudes. However, the geology and
14 the technology that they're employing limits them
15 to just how much down in terms of heavy crude they
16 can produce from the source rocks.

17 And this is an example for a breakdown of
18 the same data for the Eagle Ford. And it's in an
19 example of how producers have attempted to shift
20 their production to the heavier parts of the play.
21 The Eagle Ford is characterized by a sloping from
22 deeper in the south and east and near to the
23 surface to the north and west. And over that
24 interval as the play is sloped upward the
25 hydrocarbon has been subjected to less pressure

1 and temperature over time, which has resulted in a
2 heavier type of crude or a heavier hydrocarbon.
3 So the deeper part produces mostly natural gas,
4 which is the simplest hydrocarbon molecule, CH₄.
5 And generally as the activity proceeds across the
6 face of the play you get more and more of the
7 heavier hydrocarbons.

8 The tradeoff is that natural gas is still
9 an important component of the production for the
10 drillers, because it's the natural gas that helps
11 provide the drive for the heavier hydrocarbons to
12 make it through the micro-fractures that are
13 produced by the technology in order to achieve the
14 production flow rates that they're experiencing
15 and that they find commercial. So it's a tradeoff
16 between what they can produce in a period of time
17 and being able to obtain the material that can be
18 used by the existing refinery complex.

19 With respect to imports, this chart shows
20 U.S. crude oil imports from 2010 to 2014 and in
21 particular, the split between 35 API gravity or
22 essentially a measure of light. And you see that
23 while total U.S. imports have declined, certainly
24 it's been the light sweet oil that has declined
25 the fastest.

1 Now, other responses have included an
2 increase in crude oil exports. As Gordon
3 mentioned, there's essentially a ban on U.S.
4 producers exporting crude oil to other countries.
5 There are certain exceptions. The exceptions
6 include that the crude oil could be shipped to
7 Mexico or Canada, and indeed we've noted that
8 there's been an increase of crude oil exports up
9 to 240,000 barrels per day in 2014. And that has
10 actually gone mostly to Eastern Canada, which has
11 in turn displaced Canadian imports of foreign
12 light oil. So what's occurring in the present
13 time is a continued trend to displace foreign
14 sources of light oil. And now the question
15 becomes what will refiners do if indeed there is
16 even more light oil available, what refineries
17 might need to do in order to adjust the increasing
18 mix of light oil in the system.

19 Switching gears a little bit, one of the
20 things we noted is that the rapid rise of this
21 production wasn't being effectively captured in
22 our surveys in some respects, so we're currently
23 seeking public comment on our plan to expand our
24 survey of oil and natural gas production in
25 expanding that to 20 states and the Gulf of

1 Mexico. We're for the first time asking to
2 include production by type, API gravity and sulfur
3 content. In the meantime, we're looking to
4 purchase data from third-party sources to improve
5 our information and our analyses.

6 And finally, we work with state agencies
7 in producing states as represented by the Ground
8 Water Protection Council to collect, to
9 disseminate well-level data. This is an instance
10 where a group of state geologists have approached
11 EIA, and while they've made tremendous progress in
12 standardizing the reporting of well-level
13 information that we're stilling looking for a
14 single point of a means of disseminating the
15 information and providing some standardization.
16 So they've approached EIA and we're working with
17 that group to host their systems for reporting
18 well-level production information.

19 Gordon had some excellent charts up about
20 petroleum infrastructure. This is information
21 available from EIA's website, you know, GIS layers
22 if you're interested at that level of detail. And
23 it largely explains the same information that
24 Gordon has, which is that there's limited
25 infrastructure by pipeline bringing inland crude

1 oil to the West Coast at the present time. And
2 the options are presently limited by rail.

3 Indeed, a great deal of the infrastructure
4 that existed was built to bring foreign-source
5 light oil into the East Coast or the interior of
6 the United States, and the increase in production
7 at the interior has actually caused a shift, in
8 many instances, in reversal of pipeline flows to
9 accommodate the large increase in interior
10 production. And that's all I'll say about that.

11 Now, the price differentials make rail
12 attractive, and really what it amounts to is there
13 has been this existing rail infrastructure that
14 with marginal investments in receiving terminals
15 has allowed for this capability to ship crudes in
16 a fairly short order of time from producing areas
17 to areas that would value these resources.

18 Pipelines by comparison don't exist to the
19 same extent and would take years to permit.
20 That's not to say that pipelines would not
21 actually be built at some point. Gordon went
22 through many of the capital investments that are
23 going on in that area. And without a doubt, for
24 now and for the immediate future crude by rail is
25 necessary to bring the Bakken Alberta crude in

1 particular to market.

2 I've been asked to provide a few comments
3 about EIA's changed estimate with regards to the
4 Monterey tight oil resource. Between EIA's annual
5 energy outlook 2013 and AEO 2014 EIA reduced our
6 estimate of unproved technically recoverable
7 resources from 13.7 billion barrels to 0.6 billion
8 barrels. Now, this has been the result of several
9 years of looking at the growth in production in
10 different parts of the country with respect to an
11 initial survey that was conducted for EIA to
12 provide a comprehensive estimate of the resources
13 that may exist as a result of the growth of this
14 new technology. Understandably, at an early stage
15 there is almost no empirical measures for
16 production for technological innovation for which
17 there has been almost no application within each
18 of the plays.

19 In each year EIA is required to produce a
20 systematic, comprehensive projection of the U.S.
21 energy infrastructure and for that reason we
22 engaged in an estimate of what resources may
23 exist. In many instances our resource estimates
24 were conservative with respect to what has
25 actually occurred as what you've seen here.

1 One of the unfortunate outcomes has been
2 that the empirical measures of the activity in the
3 Monterey have not measured up to the same level of
4 success as has been observed in different parts of
5 the country. So as we've looked at empirical
6 measures of drilling activity and the success from
7 that activity, it became increasingly clear that
8 the Monterey was not as prolific as initially
9 thought. And therefore we felt that it was
10 warranted to reduce the resource estimate for that
11 to a more reasonable level pending additional
12 information from other experts, and this
13 summarizes that.

14 Nonetheless, what we ended up with in the
15 Annual Energy Outlook 2014, based primarily as a
16 result of data updates, is that the Monterey play
17 we saw actually had a slight increase in
18 production, but nowhere near the level that has
19 been observed and that is projected to continue
20 for other plays across the United States. Now
21 I've had to be very succinct and dense with a lot
22 of my comments as a natural course, however EIA
23 has a wealth of information available on its
24 website.

25 So our short-term energy outlook -- our

1 Annual Energy Outlook, which looks, among other
2 things, at key uncertainties with respect to
3 different aspects of the energy economy such as
4 fuel efficiency standards, oil and gas production.
5 And in the area of oil and gas production I would
6 say that we are considering that the future is
7 still relatively uncertain within the bounds of
8 the way one would think about continued advances
9 in technology. That if those technological
10 advances were to continue even at a more limited
11 fashion as they have been playing out over the
12 last couple of years, the crude oil production
13 could easily be 75 percent greater than in our
14 reference case, which is described within the most
15 recent annual energy outlook.

16 We also produce, and it's seen on our
17 homepage, "Today In Energy". That's a good place
18 to go to get a quick insight into some aspect of
19 energy and that's updated on weekdays every day.
20 And with that I'll finish and we can move on.

21 (Colloquy between staff.)

22 MR. BOHLEN: Good morning. My name is
23 Steve Bohlen. I'm the California Oil and Gas
24 Supervisor. I'm the Director of the Division of
25 Oil, Gas and Geothermal Resources. I'm glad to be

1 back in California and serving the citizens of the
2 state.

3 I'm going to give some overview of what
4 the Division is. The Division has an interesting
5 acronym, it's DOGGR, so if you have an acronym
6 like DOGGR you probably need to have a mission
7 that's actually useful. Otherwise the acronym
8 becomes, well, something that you don't actually
9 like.

10 The Division's been around for almost a
11 century. Next year's our centennial. And the
12 mission really has four parts. I call this the
13 "do no harm" part. This is the part in which the
14 Division works with industry to make sure that to
15 the extent possible that we limit or eliminate
16 damage to life, health, property, and natural
17 resources.

18 We also have a part of our mandate to work
19 with industry to deploy all means, including
20 advanced technologies, in order to increase the
21 ultimate recovery of underground hydrocarbons.

22 The third part of the mission of the
23 organization is to -- I call this the "trust, but
24 verify" part of the mission of the organization.
25 Which is to work with industry to develop

1 monitoring programs to actually verify that
2 releases of hydrocarbons and produced waters and
3 so forth are protected, and we are not releasing
4 these constituents into the environment.

5 And the fourth part is really an advisory
6 part and that is to assist the state with meeting
7 its needs in terms of the wise development of oil
8 and gas resources.

9 So that is what the Division does.

10 I'm actually very new to the position, I'm
11 in my fourth week, and what I've been asked to do
12 is to give you an overview of sort of what
13 California looks like and where California may be
14 going. And the two previous speakers have
15 actually introduced my talk very nicely. And
16 we're going to focus on the state in some detail.

17 So this is a lengthy period of history
18 showing the historical trends in California of oil
19 production. And as has been shown in previous
20 slides from previous speakers, there's been a
21 rather substantial decline in California oil
22 production. The result of mature fields and
23 really three or four things have to come together
24 if that curve is going to change very much.

25 First there has to be stable higher prices

1 for crude oil, so an increase in price that lasts
2 for awhile or certainty by the industry that crude
3 oil prices are not going to fall.

4 The other is advanced technology. When
5 you have highly developed fields, mature fields,
6 you basically have found what you're going to
7 find. You will make additional incremental finds
8 in general, that's what history shows. It's true
9 whether you're in the super-large fields of Saudi
10 Arabia to fields across the globe that have had
11 their historical decline.

12 You also need the regulatory environment
13 to encourage that and the will to go get it. And
14 those four things really have to come together in
15 California if that trend is going to change.

16 So where does California stand with
17 respect to other states? You can see in this plot
18 of crude oil production in Texas the recent rise
19 as a result of unconventional oil and development.

20 You can see that Alaska has undergone a
21 very rapid and steady decline basically as the
22 crude oil bed plays out. And I don't think I have
23 to tell anybody about the excitement over the
24 National Arctic Wildlife Refuge debate and the
25 fact that basically there have been no large

1 fields discovered in Alaska.

2 North Dakota is rapidly ascending, of
3 course, again because of unconventional oil. And
4 California comes in here, we are technically the
5 third largest producer of oil in the country, of
6 the states.

7 Oh, I see, I'm hooked, sorry, apologies.
8 I was tying my tie with the microphone. It
9 probably didn't work very well or didn't sound
10 very good out there either.

11 So, and as you can see again, the long
12 steady decline.

13 In terms of natural gas, no one competes
14 with Louisiana except, of course, unconventional
15 oil and gas starting to -- oh sorry, Alaska, and
16 unconventional gas starting to increase gas
17 supplies in places like Arkansas, Texas and so
18 forth. California, though, is down in this area
19 and basically California isn't really a large gas
20 producer. The geology, the thermal history of the
21 state, are not really conducive to a large amount
22 of gas. Most of the gas occurs sort of north of
23 the latitude of Sacramento. And these trends in
24 California have persisted, especially within oil
25 despite wider substantial changes in the posted

1 crude price.

2 This is Midway-Sunset Oil Field. This is
3 the largest oil field in the state and this is
4 another statement that fields in California are
5 really quite mature. And even fairly substantial
6 increases in the price of oil is not driving
7 advances in the amount of crude we're taking out
8 of the ground.

9 So as I said earlier, the picture is we
10 need advanced technologies, we need stable higher
11 prices, we need a regulatory environment that will
12 encourage the application of new technology to new
13 fields if California's going to change its picture
14 in terms of oil production.

15 Another important fact about California
16 oil is that about half of the oil that's produced
17 is produced through some enhanced recovery method,
18 whether it's steam injection, water flooding,
19 there is some enhanced oil production techniques.

20 Another statement that the oil fields of
21 California are very mature in their lifespan, but
22 without any enhanced oil recovery techniques,
23 without steam flooding or water flooding, cyclic
24 steam, so forth, about half of the production of
25 the state would not be possible.

1 So what's the future with oil and gas
2 production in California? And, of course, that's
3 been a subject of rather substantial debate in the
4 state and I think it will continue. Michael just
5 discussed this topic.

6 I like to ponder the wisdom of a very
7 famous yogi, Berra I think, who said, "Predictions
8 are difficult, especially about the future." I
9 was in top management of the U.S. Geological
10 Survey for several years and I was responsible for
11 the USGS Oil and Gas Assessment for the United
12 States. You know, we worked with the EIA on those
13 estimates. And I think it's important to realize
14 that everyone, the EIA, the USGS, and even the
15 executives of all energy companies completely
16 missed the advance of unconventional oil and gas
17 in the last 15 years. They absolutely missed it.
18 I was talking with the Vice President for
19 Technology of Schlumberger and he said, "You know,
20 all of us missed it." And I just think it's
21 something to keep in mind when we start talking
22 about what the future holds.

23 Technology advances. Energy companies and
24 energy service companies have a habit of figuring
25 things out. And Michael explained the EIA

1 methodology for getting the numbers that they've
2 arrived at. It's a robust methodology, but as you
3 saw in a number of Michael's slides and Gordon's
4 slides, there's a long history where there wasn't
5 much increase in the development of unconventional
6 oil and gas, and then all of a sudden things took
7 off. And really what that says is that the
8 maturation for new technology is about a decade.

9 And I can assure you that I know from
10 personal experience that oil and gas producers and
11 the service companies are working very actively
12 with advanced technologies with the national labs
13 and universities to find solutions to the current
14 problems. And certainly the Monterey Shale, where
15 California goes will depend on what happens with
16 the Monterey Shale, what the regulatory
17 environment is around the potential development of
18 the Monterey Shale, and advanced technologies to
19 meet the challenges of the Monterey Shale. The
20 Monterey Shale, they're not. The Bakken, they're
21 not. The Eagle Ford, it's unique. California
22 geology is different and it's going to take awhile
23 to figure that out.

24 But one of the challenges is what do we
25 mean by it if we talk about the Monterey Shale?

1 I'm going to show you just three slides with three
2 very different views of what the Monterey Shale
3 is. Some of this is, of course, arcane arguments
4 among geologists about what makes a formation and
5 what separates one formation from another. I am a
6 geologist. I just refuse to be engaged in most of
7 those debates because they're not terribly useful.
8 But it is a fact that where the Monterey Shale is
9 and where the sweet spots or fairways for oil
10 development in the Monterey Shale is, is largely
11 unknown at this stage. And so we have this view,
12 we have this view, that's another view of where
13 the Monterey Shale is, and we have that view.

14 So that just, I think, underscores some of
15 the uncertainties, not to mention the fact that
16 the geology of California is highly faulted and so
17 that creates challenges. It's lovely when you're
18 in the mid-continent and you can send out a
19 horizontal wall two miles and basically not
20 deviate that wall by more than a few meters up or
21 down to stay in the horizon. It's a little
22 different in California, life is much more
23 interesting here, and so does oil and gas
24 activity, so moving on from that we'll see where
25 that develops.

1 As I said, predictions are tough,
2 especially about the future. So a very important
3 question though is, does oil and gas activity have
4 an impact on California water supply? This is an
5 enormous debate around the country. Obviously, in
6 this state with a severe drought on, what are the
7 competing uses for water and should we be using it
8 for oil and gas development?

9 I think it's important to realize at this
10 stage California is not the same as the hydraulic
11 fracturing efforts that you've heard about,
12 whether it's in the Marcellus Shale or other
13 places. Those are very, very, very long
14 horizontal wells for which the number of fracture
15 stages is large and those are fairly substantial
16 operations that consume fairly significant volumes
17 of water.

18 California however is down here. There is
19 well stimulation techniques, some hydraulic
20 fracturing in California in vertical wells, and
21 these are not these long horizontals. And so the
22 water used for well stimulation in California is
23 much more restricted than it is in other places in
24 the country by virtue of the style of the wells
25 that are productive in California. And but it is

1 important to note that a substantial fraction of
2 California's production does require some kind of
3 well stimulation in order to enhance recovery. So
4 this obviously will continue to be a matter of
5 debate and it depends on if, and how, the Monterey
6 Shale is developed as to what the potential impact
7 of water resources might be, if any.

8 So where are we going with regulations?
9 Certainly regulations have historically covered
10 facilities, pipelines, tanks, spill prevention
11 contingency planning and well construction
12 standards making sure that well bores go where
13 they go, land in the formations in which they're
14 intended. And to ensure zonal isolation. Make
15 sure that the well completions are correct that
16 are done properly to ensure protection of
17 groundwater, drinking water supplies from the
18 production techniques.

19 But as many or all of you in this room, of
20 course Senate Bill 4 is starting to look at the
21 future of regulation in the state regarding oil
22 and gas development. And of course the
23 regulations have just been issued, draft
24 regulations have just been issued by DOGGR for
25 public comment. And new aspects of the regulation

1 include things such as neighbor notification, pre-
2 well stimulation evaluation of the formation and
3 well, monitoring during and after well
4 stimulation, water quality monitoring plans and
5 water management plans. So these are going to
6 involve multiple state agencies, the Air Board,
7 the Water Board, DOGGR, in evaluating these plans
8 moving forward. And some of the monitoring
9 involves a provision open for public discussion,
10 no decisions made yet of course involves seismic
11 monitoring. And then public disclosure of the
12 activities and the chemical used.

13 So the regulatory environment is changing,
14 having learned from and watched the challenges in
15 Pennsylvania, Texas, North Dakota, Colorado,
16 Arkansas. And so there is great interest in the
17 Governor's Office and the Legislature to develop
18 what we would call smart or wise regulation that
19 protects health, safety, the environment and
20 drinking water as the development of oil and gas
21 resources in the state moves forward.

22 So just some take-home points. California
23 oil fields are mature. California's production
24 will continue to decline without either new
25 discoveries or the combination of new discoveries

1 and advanced technology. And I said there's some
2 other things that are needed, the will and stable
3 prices. New technologies may slow the decline as
4 we've seen in Texas and in North Dakota and in
5 fact, may reverse the decline. We just don't
6 know. One thing that is absolutely certain is the
7 Division will continue to play a very important
8 role in preventing damage to life, health,
9 property and natural resources of the state.
10 That's one of our main missions.

11 So thank you very much for your attention
12 and I look forward to the question and answer
13 period.

14 COMMISSIONER SCOTT: So is this on? What
15 I'd like to do now is thank you very much to our
16 three excellent panelists. I think this was a
17 terrific way to set the stage. It was very data
18 rich. I'd like to actually ask the three of you
19 to come back up to the podium here and we will
20 take some questions from folks at the dais for
21 you. So please come on back up to the stage and
22 we'll take some questions.

23 Go ahead, Cliff.

24 MR. RECHTSCHAFFEN: Well, recognizing that
25 predictions about the future are very difficult,

1 Steve, I'm wondering if you or Mike maybe could
2 with respect to the Monterey Shale, which we're
3 all very interested in, what signs should we be
4 looking at to help gauge what progress there is or
5 what potential there is beyond the most recent EIA
6 report? What should we be focusing on the next
7 six months, a year or two, to help us understand
8 how rich that area is or how likely it is we're
9 going to have economically recoverable resources?

10 MR. SCHAAL: Well, I'll go first. And
11 first of all, thank you for explaining that it's
12 difficult. It was clear that the Monterey was
13 experiencing or has characteristics unlike that of
14 the Bakken and the Eagle Ford. My suggestion, not
15 as an expert in the area, is that research would
16 unlock the potential of that play, and that
17 additional technological innovation would have to
18 occur before it could be considered a commercial
19 success.

20 MR. BOHLEN: I think some of the keys will
21 be around what kind of technologies are being
22 deployed elsewhere. One of the challenges with
23 the Monterey as a formation is that it has chert
24 layers. In these inland seas diatoms, which have
25 silica, shells get deposited, and those layers get

1 deposited and then with heat and pressure they
2 form chert. You would know this as opal, that's a
3 gem form of chert. They're very hard, they're
4 very fracture tough. They're very hard and so
5 technologies that are deployed that would put more
6 energy into the rock and develop more robust
7 fracture patterns in the rock, I think, are going
8 to be necessary to develop the Monterey. And when
9 those technologies are being considered by
10 companies, hydraulic fracturing is actually
11 something companies have known how to do for many
12 years and is now being deployed in a new way.

13 But it actually -- rock mechanics is
14 something I know a little bit about, so I hope I
15 don't bore you. It doesn't actually create these
16 dendritic patterns that you see in all the
17 cartoons. There's just enough energy to actually
18 get a fracture going, and what you actually need
19 is to create energy so that those fractures start
20 to deviate and form the dendritic patterns. Those
21 are the kinds of things that, as we start to
22 deviate and form the dendritic pattern, those are
23 the kinds of things that as we start to see those
24 kinds of technologies deployed, I think that will
25 be an indication that the companies are ready to

1 take on the Monterey. I think that's a couple
2 years out, maybe three.

3 COMMISSIONER SCOTT: I have got one from
4 Commissioner Douglas and then I'll come on.

5 COMMISSIONER DOUGLAS: No, you're in front
6 of me, go ahead.

7 COMMISSIONER SCOTT: All right, great.

8 Well, thank you. I wanted to ask Steven
9 just a couple of follow-up questions on your
10 presentation. And, of course, the Energy
11 Commission and DOGGR work closely together and
12 share data and information and have some similar
13 analytical functions, so, you know, I wanted to
14 ask when you expect to have your enhanced oil
15 recovery data updated and available.

16 I noted that the chart in this
17 presentation goes through to 2009 and shows a kind
18 of interesting uptick there, but you can't really
19 see where that's going. And then some other
20 charts sort of end in 2012. It would be really
21 good to just work and make sure that we all have
22 and share the most recent data on some of these
23 things. And -- well go ahead and then I had
24 another related question.

25 MR. BOHLEN: Well, I won't answer when,

1 because I'm coming up to speed on some of these --

2 COMMISSIONER SCOTT: You've got to --
3 microphone.

4 MR. BOHLEN: Oops, sorry, sorry. I won't
5 answer when, because I have trouble predicting the
6 future, but I'm just coming up to speed on many,
7 many issues.

8 I am aware that we are behind in producing
9 many reports that we have normally done, including
10 the annual report, so I've asked the staff to look
11 at getting, you know, what's it going to take to
12 get those out as fast as possible. There's a
13 number of challenges in DOGGR and that's one of
14 them, so I'm aware of the problem. I've asked my
15 staff to give me a plan, so I should be able to
16 tell you, you know, perhaps when we actually meet
17 officially in Sacramento. But it is on the list
18 of things that needs to get done and done quickly.

19 COMMISSIONER DOUGLAS: Well, that would be
20 great, and I think we'd also be interested in
21 talking about the potential for publication or
22 data collection on production data for
23 hydraulically fractured wells. But let me ask you
24 a question.

25 You know, have you gotten -- I know you've

1 been in your role for four weeks so the answer
2 might be no. Have you gotten any feedback? What
3 are you hearing from companies about their success
4 so far in using hydraulic fracturing in
5 California?

6 MR. BOHLEN: You know, I haven't had a
7 chance to engage the companies in that type of
8 discussion yet. Most of my engagements have been
9 meet and greet and promises to work together, so
10 ask me that question in six months and I'll have a
11 more robust answer.

12 COMMISSIONER DOUGLAS: No, that's good.
13 That would be great, well --

14 MR. BOHLEN: Certainly my background will
15 allow me to penetrate past the, sort of the glossy
16 view that the companies will present. And I
17 believe I can ferret out accurate information with
18 time.

19 COMMISSIONER DOUGLAS: Well, that would be
20 great. Well, welcome to your role and thank you
21 so much for being here.

22 MR. BOHLEN: Thanks.

23 COMMISSIONER SCOTT: Chair Weisenmiller?

24 CHAIRMAN WEISENMILLER: Yeah, so I had a
25 couple of questions. First one, just a follow-up

1 for Steven. Do you have a -- obviously we've done
2 enhanced oil recovery for a long time. Do you
3 have a sense of whether that's been shifting over
4 to fracking as one of the ways of doing the
5 production, and if so, how much?

6 MR. BOHLEN: Actually, a lot of well
7 stimulation has --

8 COMMISSIONER SCOTT: Wait, we have to have
9 you at the microphone so the folks over WebEx can
10 also hear the answer.

11 MR. BOHLEN: You'd think I'd learn, I'm
12 slow, slow learner.

13 COMMISSIONER SCOTT: Thank you.

14 MR. BOHLEN: So actually, a large very
15 substantial amount of enhanced, of well
16 stimulation in the oil business for the last 50 or
17 60 years has been some form of hydraulic
18 fracturing. It's been somewhat less controlled,
19 but hydraulic fracturing itself as a technique has
20 been around for a long time and been used quite a
21 lot. So it's a very substantial amount of wells
22 have been stimulated through hydraulic fracturing.

23 It's really the advent of the development
24 of these unconventional resources with the very
25 long lateral hose on the wells that has really

1 brought this, I think, much more into focus in the
2 public's mind. But there's been a -- this is a
3 very common technique used in vertical wells for
4 60 years.

5 And you're going to ask what the fraction
6 of wells are that have been? I don't know the
7 answer to that, but it's a fairly significant
8 fraction. It might be a quarter, it might be 30
9 percent. I actually don't know, that's just a
10 guess on my part. Did I answer your question?

11 CHAIRMAN WEISENMILLER: Yeah, you did.
12 Thanks.

13 MR. BOHLEN: Okay.

14 CHAIRMAN WEISENMILLER: So a couple of
15 questions for Gordon. I'll start with the
16 observation I was at an NRC event with officials
17 from various states, and at one of our events a
18 gentleman from North Dakota was very, whatever,
19 emphatic that North Dakota now had beat Texas on
20 oil production, which gives you a sense of how
21 much things are changing or at least perceived to
22 be changing.

23 So I guess in terms of questions for
24 Gordon, first question is, back in '78 when I was
25 here with the first Brown administration we had an

1 oil embargo from Iran and we had shortages at the
2 gas pumps, and generally we ascribed that to two
3 phenomena. One of them was that we have a fixed
4 refinery set and our crude mix shifted to, you
5 know, basically we backed out the light Saudi and
6 we were relying on a much heavier crude input.
7 And that meant you could produce much less
8 gasoline given the refinery configuration.

9 And the other thing that happened was of
10 all of our, you know, 20 or 30 million vehicles,
11 suddenly people went from having say a quarter to
12 half in the tank to trying to go for three-
13 quarters to full, and that was a remarkable surge
14 on gasoline demand at the same time and so that
15 led to that shortage.

16 Given the current notary situation, how do
17 these trends affect, in our refinery mix affect
18 our supply situation?

19 MR. SCHREMP: Well, I think for crude oil
20 I think what Michael was showing is that in
21 general high-level examination you see more oil,
22 most of its light incrementally speaking, so
23 something has to give. Less importing, and so who
24 are we not importing from? Light locations. One
25 of those happens to be, by the way, and this is

1 more Europe, but some source spilled over into the
2 U.S., Libya. So troubles in Libya, a lot of light
3 oil production lost. Well, that's okay, because
4 we're sort of displacing that need to import
5 there. Other African countries, Nigerian light
6 normally would come to the U.S., now can't find a
7 home.

8 So I think there's a natural displacement
9 of very similar crude oils, but we're getting to
10 the point, as Michael showed in his chart, you
11 don't have a lot of light imports of oil left to
12 back out.

13 So what's going to happen? Refineries use
14 a sort of array of crude oils, all kinds of
15 different crude oils with different varying
16 properties. Many, many of the refineries, most of
17 them actually mix and match, they combine crudes
18 together almost in a cocktail, if you will, to get
19 the properties they want to run based on their
20 equipment and the product slate and the economics
21 they desire that change over time.

22 So up until this point they've been able
23 to do mixing and matching. So you could actually
24 take something, for example, more heavier crude
25 than you normally take, more lighter crude than

1 you normally take, blend them together to get sort
2 of a middle of the road crude and that mates up
3 well with what you're trying to accomplish. So
4 the refineries will continue to do this, but at
5 some point you add so much light crude oil to your
6 point of yes it makes more gasoline.

7 Your refineries have been increasing their
8 utilization rates. They've been exporting record
9 numbers, but there's a limit. If you look at
10 their utilization rates, how hard they run the
11 refineries, over 90 percent, over 95 percent,
12 that's basically as far as you can go. You have
13 to have planned maintenance and so that's why
14 they're starting to get more of a concern about
15 now what are we going to do to fit all that oil
16 in, and what kind of impact? So you will continue
17 to back out imports, but will still want some of
18 that. So as long as the economics remain good for
19 discounted crude oil, you'll see refineries
20 running at very high rates and exporting to
21 foreign destinations.

22 Does that properly address your --

23 CHAIRMAN WEISENMILLER: Yeah, that was
24 good. I guess the one question is trying to
25 understand how much we should anticipate refinery

1 modification projects being needed to deal with
2 the really changing crude slate?

3 MR. SCHREMP: I think in California really
4 nothing. They will -- if in fact, these crude oil
5 by rail projects are permitted and they are built
6 and we do get to a much larger number than today
7 you'll see them back out light qualities. And so
8 we do have foreign imports that are light in
9 quality that look like some light crude oils, we
10 also have some heavy imports that we can back out.
11 So that's what will happen. It will be Alaska,
12 it'll be foreign sources that will be backed out
13 by rail.

14 Those won't have to make any changes
15 because they still have that flexibility. We're
16 not sure if they weren't landlocked, made up to a
17 certain type of crude oil that now all of a sudden
18 has changed dramatically and they have limited
19 ability to receive other types. We're not like
20 that in California. So you don't see announced
21 projects in that arena to make modifications to
22 handle a much greater diet of light. In fact, the
23 West Coast refineries are about 50-50, 50 percent
24 light, 50 percent heavy. Washington and
25 California refineries with California a little bit

1 heavier.

2 So we do not expect that in California,
3 but you will see that in other locations that not
4 too many years ago always spent billions of
5 dollars collectively handling what? Heavier crude
6 oil coming out of Canada and then turn around, not
7 being able to predict the future very well? Yes,
8 now what am I investing in? Real money. Light
9 projects to handle more light crude oil and this
10 is primarily in the Gulf Coast is what you're
11 seeing.

12 CHAIRMAN WEISENMILLER: Okay. One general
13 question, particularly for you, but for everyone.
14 So we've had this real shift in the product mix
15 and new transportation modes coming in for
16 bringing it into California or transporting it
17 around California. Where are our biggest gaps in
18 data at this point?

19 MR. SCHAAAL: I'll take that. So a few of
20 the -- at a national perspective some of our
21 greatest data gaps have to do with crude by rail
22 movements, understanding the movements across
23 different regions of the United States. We have a
24 fairly good data for pipeline movements and water-
25 borne movements. We also, as I discussed in my

1 presentation, could have better information about
2 the quality of the crude oil, and that would
3 provide better information about the types of
4 adjustments that the market might need to induce
5 to provide the needed refinery additions.

6 Gordon's presentation, for example, showed
7 a selection of condensate splitters and other
8 types of infrastructure being built in other parts
9 of the country that would have the capability of
10 processing this lighter fraction of crude oil.

11 MR. SCHREMP: And I think I'll just echo
12 Michael's comments. It would be nice for us to
13 better understand what type of crude oil actually
14 is coming into California. We know the locations,
15 but now in many of these locations, for example
16 Wyoming, they're loading crude oil from multiple
17 locations, sources, Canada heavy, Bakken light,
18 coming to some very large terminals for loading
19 rail cars in Wyoming, 120,000 barrels a day,
20 140,000 barrels a day.

21 So we may know it came from Wyoming or
22 even that loading center. What crude oil was it?
23 We don't know. We just know the volume and so
24 we're not even sure on the density. So I think
25 that would be helpful to us to understand what is

1 being sourced, but that kind of information isn't
2 provided to us at this time.

3 MR. PEEVEY: I'm not sure to whom this
4 question should be addressed, but I'd just like
5 your opinion on the following. To what extent, if
6 any, would the building of the Keystone Pipeline
7 alleviate a lot of this potential rail traffic
8 into California of all this oil from Canada and
9 North Dakota?

10 MR. SCHREMP: I think because of the
11 technology development that Steven said no one saw
12 coming, a renaissance in crude oil production and
13 natural gas production in the United States
14 resulted in -- which is very typical. Pipelines
15 are constructed because you have a supply source
16 and a destination point where they want that
17 material and that's the most economical way.
18 Sufficient volumes, it gets built. It takes
19 years, lots of money. So pipelines are
20 constructed and they are there, but they can't be
21 permitted and constructed fast enough to respond
22 to this, you know, remarkable increase in North
23 Dakota, West Texas, Colorado. So what happens?
24 Rail occurs, but over time.

25 I think your question is a good one for

1 say longer term, so no Keystone a consequence is
2 you could have greater rail as a consequence. In
3 time more pipeline projects will continue to be
4 approved and constructed and operational.
5 Pipeline reversals, there's many projects that
6 have already occurred that way and in some areas
7 you can look, crude loading facilities have gone
8 down to a very low level because all of a sudden,
9 oh, freed up some pipeline capacity, sign me up at
10 half the price. And so that's what happens.

11 But I think more of a North America
12 potential consequence is the Keystone was designed
13 to bring Canadian crude down to the Gulf Coast
14 Refinery, some of it for export but some of it
15 really for the Gulf Coast economics and improve
16 the economics to the refineries there. As a
17 consequence, even more expensive development
18 bringing the value economic (inaudible) good and
19 Canada now looks where? Take the crude oil
20 somewhere else, clearly not across the U.S.
21 border, but take it to Western Canada, Eastern
22 Canada. Two competing projects going into Western
23 Canada, hundreds of thousands of barrels. Over
24 half a million barrels a day will now likely go to
25 the West Coast and now where is the crude oil

1 going to go? Not to the U.S. refineries at a
2 discounted price; to China.

3 And so that is a -- now, we can't predict
4 the future, but this could be a consequence of
5 that project, that large project not approved.
6 But don't get me wrong, many, many, many pipeline
7 projects and reversals have been and continue to
8 be approved and money spent and operational. It's
9 just usually a lag of step changes.

10 MR. PEEVEY: My only concern is, I mean
11 I'm not enthusiastic about having tens of
12 thousands of more rail cars running full of crude
13 oil running around California, because I think
14 accidents are inevitable. And I just wondered if
15 there was a clear offset from one to the other.
16 If it goes there, it doesn't come here. And
17 you're saying perhaps, but it's a much more
18 complicated matter. Thank you.

19 COMMISSIONER SCOTT: I have a question,
20 it's more of an underscoring and it's for Gordon.
21 And you mentioned on one of your slides that about
22 1 percent now is coming into California by rail
23 and in 2016 about 23 percent-ish could be coming
24 into California, and you listed several factors, I
25 think some really important caveats that went

1 along with that. And I would just ask you to
2 underscore them, because a lot of times I see that
3 statistic but without the caveats associated.

4 MR. SCHREMP: Yeah, crude oil projects
5 take two major forms and one is to load the crude
6 where it's being produced and get it to customers.
7 So if you can load the rail car, your customer is
8 anywhere in North America that has rail receiving,
9 so you have a large customer base at that point.
10 In California we're not doing that. Clearly, we'd
11 be a recipient, the refineries would. So that
12 customer, if they can build a rail facility, the
13 North America rail loading facilities, that's
14 their oyster. They can, you know, try to get
15 crude oil from anywhere that has rail cars,
16 because it's economical.

17 But there's changes that occur, so we've
18 seen in some of these projects their transient
19 nature meaning they're short-lived. The discounts
20 are so large in some cases, over \$25 a barrel,
21 that if you could get your rail project
22 constructed relatively modest 50 million, 40
23 million, 30 million, not a lot of money relatively
24 speaking, you can pay for yourself in 7 months, 18
25 months. And so you're looking at a small window

1 and then your project is paid off. And then you
2 have flexibility at your refinery for just
3 shopping crude oil or contingent planning in case
4 there's an earthquake takes out a pipeline and
5 things of that nature.

6 So they're transient and so what has to
7 happen is they have to look at that market and
8 say, Is that crude discount going to be there for
9 18, 24 months or 36 months, however long? And if
10 they're still pursuing their permit they have to
11 have that as a backdrop.

12 So many people are still predicting yeah,
13 the crude oil production is still going like
14 gangbusters, it's outpacing pipeline expansion
15 capability, it's going to be discounted --
16 Alberta, Dakotas. So go ahead if you need more
17 time to build your project So they'll likely
18 still pursue that, but once those discounts start
19 to be eroded then they lose interest.

20 So you have to have that and I didn't have
21 that in my presentation, I apologize. That's the
22 backdrop, but then you need to get your permit,
23 then you get customers. They don't build a
24 facility like this on speculation like spec home
25 building. They get approval, the permits to hand

1 and get the customers lined up and say, go to the
2 Board and say they're all lined up. I have
3 contracts signed. Okay, here's the money, go
4 ahead and build it. That's how they get done, so
5 all of those have to line up.

6 So will all of them line up in California
7 for all of those facilities? Likely not. You can
8 have a phenomenon of first in, Plains All American
9 facility in Bakersfield will be operational later
10 this year. They will be able to ship crude oil
11 north to Bay Area refineries and south, so they
12 will obviously have customers lined up. They do,
13 they're building it. So now maybe another project
14 who is going to do something similar, they have a
15 tougher time getting customers.

16 So this is what can naturally happen, but
17 still if you put that in larger perspective 23
18 percent, Alaska was 12 percent of our oil, 51
19 percent from foreign countries. There's plenty of
20 room to back that out, to President Peevey's
21 question, back out the marine imports. So but all
22 of those factors, you're right Commissioner Scott,
23 they all have to be lined up. And the crude oil
24 discount must be sustained.

25 COMMISSIONER SCOTT: Thank you for

1 reiterating that for us. And had another one for
2 Michael Schaal. You talked about the large
3 reduction in the Monterey Shale estimate and I
4 think that's also something that's really of a lot
5 of interest to folks. And you did a great
6 explanation and I would just ask you if you could
7 underscore that and give us the key details of
8 that just one more time.

9 MR. SCHAAL: Okay. And actually I'm much
10 beholden to Steven, because I think he did an
11 excellent job of explaining that the geology as
12 represented by Monterey is substantially different
13 from those plays that have had the commercial
14 success in the interior of the United States. And
15 so at a time when the technology was new and we
16 were tasked with attempting to understand how this
17 technology might be usefully applied across a
18 range of plays, the Monterey has not played out in
19 the way that had originally been expected. And
20 it's the issues that Steven has discussed that
21 have been in the way of achieving the commercial
22 success and therefore warranted a reduction, at
23 least for now, of the resource estimate.

24 COMMISSIONER SCOTT: Okay, thanks. I
25 appreciate that reiteration as well. We've got

1 one last question from Commissioner Douglas and
2 then we'll transition to our next panel.

3 COMMISSIONER DOUGLAS: All right. I think
4 this question is for Michael Schaal. You know,
5 I'm looking at the information you provided, it's
6 really great. It just raised one question for me,
7 which is if you could give me a sense of scale in
8 terms of the estimates of increase in U.S. crude
9 oil production and what that could mean for
10 foreign imports, either Canada or, you know, the
11 rest of the world: Middle East, South America,
12 Africa. You know, I'm just trying to get a sense
13 of the significance of this trend in terms of the
14 larger crude supply.

15 MR. SCHAAL: So and I take it you're
16 looking more of a longer-term nature than a
17 shorter-term nature?

18 COMMISSIONER DOUGLAS: Right.

19 MR. SCHAAL: So EIA has a saying, and this
20 was coined by EIA's first administrator. EIA was
21 formed as a result of the shortages and the OPEC
22 cartel behavior, and our first administrator,
23 Moses, coined the term that there are no
24 statistics about the future. And indeed, when we
25 look at our projections, and we purposely use the

1 word "projections" and not forecasts, when we're
2 looking ahead 20, 25, 30 years ahead. Because
3 what we realize is that our understanding of today
4 is not going to be the same understanding of
5 tomorrow, next year or 20 years from now. That
6 enough time will have transpired that significant
7 new information will be made available to us that
8 would alter our perception of what the future
9 could be.

10 In this case our study of the background
11 of the determinants of this type of production
12 could result in continued technological progress
13 that would enable bringing other plays into line
14 increasing recovery rates. And this is somewhat
15 key in that, while we've had rather impressive
16 production growth from tight oil formations, the
17 information from the geologists and petroleum
18 engineers is that that represents a 3 to 9 percent
19 recovery of the in-place oil that's in the
20 formation containing the hydrocarbon.

21 So that is a positive for optimism that
22 further technological innovation could unlock even
23 greater recovery rates allowing drilling not to
24 just be extended to other locations, but go back
25 to existing locations, do completions and achieve

1 -- you know, if you doubled the recovery rates you
2 could double the level of production for a period
3 of time. And that's why when we look at the
4 future in terms of alternate scenarios, and in
5 this case it truly is a scenario, we look at a
6 scenario of a reference case, which looks at what
7 we understand the technology of today to be as
8 extended through the next 30 years.

9 And then we also consider a scenario that
10 involves thinking about the way the technology
11 could evolve in the future. And that's where we
12 see that potentially U.S. crude oil production
13 could be more than 75 percent above our current
14 levels. And that's fairly well described in our
15 AEO issues and focus piece that was published
16 earlier this year. And in that instance where you
17 have increase in U.S. crude oil production and
18 long-term trends of increasing vehicle fuel
19 efficiency requiring less amounts of liquid fuel
20 products, that there is an opportunity for the
21 U.S. to rather substantially offset a majority of
22 crude oil imports. You know, that possibility
23 exists, we look at it, we try to make sense of it.

24 But one of the things we also recognize
25 about the infrastructure needed to adapt to that

1 is we've noted that over time state agencies and
2 federal agencies have been relatively good
3 stewards about enabling the infrastructure to
4 allow markets to work. And that while this trend
5 may occur, it would occur over the course of
6 decades, not necessarily over the course of just a
7 few years.

8 COMMISSIONER SCOTT: Great, thank you very
9 much to three terrific --

10 MR. SCHREMP: Oh, I just want to give
11 (inaudible) closing.

12 COMMISSIONER SCOTT: Oh, I'm sorry, go
13 ahead.

14 MR. SCHREMP: Sorry, just one little
15 closing comment. Although DOGGR might be maybe a
16 little behind on their traditional annual reports
17 that we've come to love and expect and depend on,
18 I've got to give a plug to DOGGR on they do have a
19 living database. For those of you who may not be
20 aware, you go to their website, you can find a
21 living database. You can look up all the wells in
22 your neighborhood or in some part of California
23 and you can click on the individual wells and
24 you'll see actual production data through the most
25 recent month. So it's a remarkable achievement,

1 this database that's updated constantly, so I just
2 wanted to let everybody know that there is a
3 pretty valuable resource for that kind of
4 information out there.

5 COMMISSIONER SCOTT: Terrific, thank you
6 Gordon. And thank you to our terrific panelists.
7 I think they did a great job giving us a lot of
8 robust information to set the stage. So thank you
9 Gordon, thank you Michael, thank you Steven, we
10 appreciate it.

11 I'd like us to transition now to the Crude
12 Oil Distribution Logistics Panel. And our first
13 panelist is William Finn. Mr. William Finn is the
14 Vice Chairman of the Railway Supply Institute
15 Committee for Tank Cars.

16 (Colloquy between staff)

17 MR. FINN: Good morning. I'm William
18 Finn. I'm Vice Chairman of Railway Supply
19 Institute Committee for Tank Cars, and I'd just
20 like to start out by saying I've been in the
21 railroad business and specifically in the tank car
22 business for over 40 years and 36 of those years
23 I've been a member of the AR Tank Car Committee.
24 I'll talk about that in just a second, but it's a
25 standard setting body that does reference to

1 rulemaking with the federal regulators.

2 But in those 36 years on the Tank Car
3 Committee we've had a lot of challenges, big
4 challenges that have come and gone. We've been
5 able to solve those, but this is the biggest
6 challenge we've ever had. We've never been in a
7 position where we had to supply cars as fast as we
8 have and the buildup that we had. And also keep
9 in mind the safe transportation of the commodity
10 that we're handling. Crude oil, ethanol, the
11 other flammable liquids, they all have their
12 characteristics and they all have their concerns.
13 And, of course, one of the biggest concerns we
14 have particularly lately has been the
15 transportation of crude oil.

16 Now what's changed in crude oil? And I'll
17 get into my slides in just a minute. What we're
18 doing with both crude oil and ethanol and is we're
19 carrying with unit trains. We've never done this
20 in the past. Generally what we did is when we put
21 hazardous material cars in a rail car manifest
22 train we would separate the commodities being
23 aware of trying to not get too many hazardous
24 materials together. In case you did have a
25 derailment it would minimize the exposure.

1 With the advent of the unit train, which
2 is a very efficient way to transport both crude
3 and ethanol, we've now put blocks of cars of 40,
4 30, 20 cars together in a train. Our total cars
5 in the train may be 100 or 80 cars, so that it's a
6 challenge in that we've got to find and continue
7 to work forward with a safe way to transport these
8 materials. And that's what I'll talk a little bit
9 about this morning.

10 And also, then we also need to be aware of
11 that what we do in the way ensuring that we safe
12 transport these in the way of regulations.
13 Modifications that we're proposing in the industry
14 doesn't just kill the transportation of crude. As
15 we've seen in other discussions, particularly
16 coming into California, there really isn't a
17 pipeline to transport crude that's coming out the
18 Bakken region, which is the major growth area as
19 you've seen through some of these presentations
20 before me. So the key here is how do we safely
21 transport the material? How do we get it to its
22 destination? How do we make sure we have enough
23 cars to get the job done? So that's what I'd like
24 to talk a little bit about this morning.

25 Let me tell you just a little bit about

1 our committee quickly. We are the Tank Car
2 Committee, of course, of the Railway Supply
3 Institute. We're eight members and we represent
4 builders that build 95 percent of the tank cars in
5 the United States. We also own 70 percent of the
6 tank cars in the United States and we lease them
7 to shippers. And then what's not shown on this
8 slide, also we have the largest certified tank car
9 repair network in the country. So when we talk
10 about building cars or supplying them, repairing
11 or modifying cars, we're a big player in this and
12 we're committed to getting the job done in the
13 right way and getting the safest transport vehicle
14 out that we can.

15 Let me just give you a little timeline
16 here. You know there's been a lot in the paper in
17 the last year in particular about crude oil
18 derailments. Certainly there's been some
19 situations that have been very tragic. There's
20 also some situations that you don't see much of
21 and that's derailments that have occurred and not
22 much of anything's happened in the crude oil unit
23 train. But the fact is everybody's sensitized to
24 transporting crude oil and ethanol because of some
25 big events and some very tragic events that have

1 occurred.

2 We go back, in the work that we're doing
3 with the AR Tank Car Committee, we go back to 2009
4 when there was a derailment in Cherry Valley,
5 Illinois, and it happened to be what we call a
6 manifest train, a large-block manifest train,
7 ethanol. It derailed at a crossing. There were
8 some people waiting to cross the tracks and
9 tragically there was one fatality and two people
10 were injured who were burned in this very
11 severely.

12 So the Transportation Safety Board,
13 National Transportation Safety Board in this case,
14 went to the accident and they did an inspection.
15 They wrote a report and the areas that they
16 pointed out, which was no surprise to us, are that
17 particularly cars need to be addressed in areas of
18 the shell that had the top fittings and the bottom
19 fittings, and I'll have a slide here in a minute
20 to explain what that means. But their
21 recommendations are that we needed to do something
22 in those areas to make these cars perform better
23 in a derailment.

24 Now, I should say transporting by rail is
25 a very, very safe mode of transportation. We've

1 talked a lot today about what are some of the
2 alternates. Barges are. Of course, that doesn't
3 really enter into the Bakken situation. Truck
4 transport is. The fact is rail is safer than
5 truck transport by a magnitude of seven or eight
6 and it would take a lot more truck transports to
7 carry the same amount of quantity that you carry
8 in a unit train of cars.

9 So what we did in the industry is we
10 formed a taskforce, which is the way we addressed
11 this in the Tank Car Committee, and we deliberated
12 on what we could do to improve these cars, and in
13 2011, in March of 2011, excuse me, the Tank Car
14 Committee sent a petition to DOT who regulates the
15 railroads. You know, the railroads are regulated
16 by the federal government, the Department of
17 Transportation and specifically the Federal
18 Railroad Administration and the Pipeline and
19 Hazardous Materials Safety Administration.
20 They're the people who promulgate the rules. They
21 enforce the rules. They specify what tank cars
22 should be in specific commodities and we're
23 required to meet those requirements.

24 Now we can in the industry exceed the
25 federal requirements. The railroads can set their

1 own standards saying effectively that the FRA
2 standard is fine except we want a higher standard
3 for the cars on our railroad. And what's
4 important here is that we sent the petition to
5 PHMSA in 2011, but recognizing that the wheels of
6 the federal regulatory process are very slow to
7 churn, we also agreed in the industry that we
8 would voluntarily step forward and start building
9 cars to a higher standard. These cars would be
10 used for ethanol, crude oil and other flammable
11 liquids. So in October 2011 the industry began
12 building cars to this new, higher standard.

13 And that brings us up to date to today.
14 In 2014 we are still waiting for our regulation
15 from the federal government. We know that there
16 is what we call a Notice of Proposed Rulemaking,
17 which is a second step in regulatory process
18 following an advanced notice that is now at the
19 Office of Management and Budget. We expect it
20 should be out sometime in July. It'll be
21 published as a Notice of Proposed Rulemaking with
22 a public comment period, but at this point at
23 least the feedback we're getting through our
24 sources is we believe this rulemaking will be
25 complete by the end of the year and will be

1 promulgated as a final regulation.

2 One of the issues we deal with in the
3 industry with the federal government is, once a
4 proposal goes into the rulemaking processes
5 there's very little direct communication that can
6 take place with the government. We can come in,
7 we can present our proposals, we can officially
8 comment on published issues, but they cannot
9 indicate whether they're for or against or where
10 they're going with their rulemaking. So we
11 attempt to direct the rulemaking to where we
12 believe it should be, where in this case what we
13 think will provide a safe vehicle, but in the end
14 it's the government who makes the decisions.
15 They'll send their rulemaking out for comment,
16 we'll be able to comment, but in the end they'll
17 decide what goes into the final regulation.

18 But just I want to go through this just
19 quickly just to maybe familiarize you a little bit
20 with what a tank car is and the areas that we're
21 concerned about. The areas we're addressing in
22 our new P-1577 or what we call the CPC-1232
23 Standard, which was a voluntary standard.

24 Basically, when a tank car derails it can
25 lose commodity through a breach in one of four

1 areas. One would be what we call the heads of the
2 car, which are right up in here. And those are
3 generally caused by either couplers that will
4 impact the car or the edge of the platform of
5 another car, other freight cars. And the second
6 area is through the shell, which is this area
7 right through here, and those are side impacts.
8 You know, the cars will careen as they come off
9 the rail and a lot of times another car will
10 impact them or they'll simply compress and split
11 open. Third will be in the top of the area, what
12 we call the top fittings protection. Sometimes
13 these'll get wiped off and commodity will come out
14 of that area, spill out of that area. And then
15 lastly, the bottom fittings area. So these are
16 all areas that were pointed out by the National
17 Transportation Safety Board and those areas that
18 we directed towards our new car, which I'll talk
19 about in a minute.

20 There were other safety features on the
21 old cars, the existing cars I should say, such as
22 shelf couplers, which have intrusions on the top
23 and the bottom. The intent is to try to keep
24 those from uncoupling in a situation and impacting
25 the adjoining car. And another is a skid down

1 here in bottom fittings protection, and the idea
2 there is if the car goes off of its tracks and
3 skids along the rail, that you won't wipe off the
4 bottom fittings and leak through the bottom of the
5 car.

6 Now, those were in place prior to anything
7 that's been going on with the ethanol and the
8 crude oil cars. The thing that's occurred that's
9 changed on these cars is, because of back
10 injuries, the industry requested that a new handle
11 be put on the bottom outlet valve that could be
12 accessed from either side of the car with minimal
13 effort, and it would address some of the OSHA
14 concerns. But what happened in derailments is
15 that handle would, because of the large mass in
16 the handle, tend to open and cause some of the
17 commodity to leak out of the bottom of the cars.

18 So what we did to address this, and this
19 is how new cars are being built and how cars that
20 are going to be modified in the fleet are going to
21 be modified, is starting with the top fittings
22 area. We put all the fittings in a very robust,
23 protective housing and it's called top fittings
24 protection. The idea is that in a rollover
25 situation you have to be able to wipe off the

1 valves and remove commodity.

2 Also what you don't see on this drawing,
3 but inside the housing is a safety relief valve.
4 What we've done with the safety relief valve is
5 we've lowered the discharge pressure, the initial
6 discharge pressure, and we've increased the
7 capacity of the release. So the intent here is at
8 a lower discharge pressure we can vacuum or
9 evacuate higher commodity volume, therefore
10 attempting to keep the pressure in the car buildup
11 down so that we don't have what we call a thermal
12 tear or a pressure tear.

13 We've applied head shields on the end of
14 the car. These are half-inch thick steel plates
15 that are attached right over the heads and they
16 provide puncture resistance on the two ends of the
17 car.

18 We're applying jackets to all these cars.
19 Now, prior to this some cars were jacketed and
20 some cars were not, and the reason you jacket a
21 car is for ease of unloading, that you could put
22 steam in the car and cause the viscosity to go
23 down in the commodity, and therefore you'd be able
24 to unload it. That was strictly for final
25 discharge of the material. But we're jacketing

1 the car now because it provides another eighths-
2 inch thick steel and we've found it's very
3 effective in side impacts in minimizing the
4 possibility of an impact on the side of the car
5 that would release commodity and cause a breach.

6 We're also adding, and it's a little
7 difficult to see here, but we're adding thermal
8 blankets on the cars. Now, thermal blankets have
9 been used since the 1980s on compressed gas cars
10 and these cars are flammable. And we had a rash
11 of -- in the late 70s we had a rash of derailments
12 where we see these high-energy events where the
13 commodity was released and you see somewhat of
14 what you're seeing on a few of these derailments
15 today for ethanol and crude oil. The idea with
16 the thermal blanket is, it's a regulatory
17 requirement on compressed gas cars and it's there
18 to allow adequate time for the emergency
19 responders to mobilize to address their evacuation
20 plan and address how they're going to fight the
21 fire if they intend to fight the fire.

22 One of the issues about losing commodity
23 in any derailment is there's plenty of sparks in a
24 derailment and ignition source, and when you
25 couple that with a flammable liquid or compressed

1 gas there's always a possibility that you're going
2 to have a fire. And then, of course, you have the
3 ensuing issues of adjoining cars that could be
4 impinged by the fire. The pressure would build
5 and you'd release additional commodity, therefore
6 it becomes a situation where you continue to feed
7 the fire situation. So the thermal protection
8 helps with that.

9 But the bottom fittings protection, we've
10 got a design to replace that universal handle with
11 one that will be contained within the skid housing
12 and it should not open in a derailment.

13 And so these are the cars that are being
14 built now to the CPC-1232 voluntary standard, and
15 the cars that we're working hard to get the
16 government to put into the regulations. And
17 that's an important factor. I'll talk about the
18 reason we're working hard on that in just a
19 minute.

20 At the end of 2013 the total fleet of
21 crude oil tank cars was 43,750 of which 14,350 of
22 those were these new compliant CPC-1232 cars, the
23 ones I just showed you. 29,400 of those are the
24 existing fleet cars. Now, what we're doing in the
25 industry is we're working to build up this fleet

1 as quickly as we can with new cars that are
2 compliant, and then as quickly as we can get some
3 certainty from the government on our retrofit
4 proposals we're going to address this group of
5 cars in terms of modifications that'll upgrade
6 their safety.

7 Now, we're talking specifically crude oil
8 here, but you can't uncouple crude oil from
9 ethanol, because basically you're carrying the
10 same type of commodity, a flammable liquid that
11 are carried in the same cars and they're carried
12 in unit trains, so they have all the same
13 characteristics of crude oil. So we've got to,
14 when we talk about what we're doing with crude oil
15 we've got to also look at what to do with ethanol.
16 And again, at the end of 2013 there were 29,850 of
17 these cars of which only 500 of these are
18 compliant cars. And there's a reasons for that,
19 because the crude oil buildup took place years
20 before -- excuse me -- the ethanol buildup took
21 place years before the crude oil buildup. So most
22 of those cars have been built and they've not been
23 ordering new cars to the standard. So you'll see
24 more of their cars, of the old legacy style
25 design. And these again are the cars that have to

1 be addressed in terms of any types of a retrofit
2 or a modification program.

3 So to take a look at where we're going to
4 be by the end of 2015, you can see that the
5 fleet's changing dramatically. Roughly the size
6 of the crude oil fleet's double what it was two
7 years ago and about 57,000 of those cars now will
8 be compliant cars.

9 Now, it'd be easy to say, well, okay. If
10 we're building these cars and we can build them up
11 this quickly, why don't we just phase out these
12 cars? Well, the fact is at this point in time, of
13 course, this entire fleet is needed and more to
14 meet the demands of what's going on in the buildup
15 of crude oil.

16 And here's what we're dealing with in
17 terms of how can we replace cars, how quickly can
18 we get the new cars in the fleet. The full
19 capacity industry is about 34,800 cars per year,
20 so over a three-year period we can build 101,000
21 tank cars. But we have a current backlog of
22 55,000 tank cars that are already on order, so
23 those cars are spoken for. Now, the good news is
24 60 percent of those cars are going in the crude
25 oil service and those are on order. The capacity

1 remaining then over the next three-year period is
2 46,000 cars. Now, knowing that we have to service
3 other commodities, there's a national tank car
4 fleet that has to be serviced here. Our
5 projection is that about 60 percent of that
6 remaining crude oil, remaining -- yeah, excuse me,
7 capacity could service a crude oil and ethanol
8 fleet.

9 Well, you can see that if you look at the
10 existing fleet and if you look at that's a legacy
11 fleet. Now, these are non-modified cars and if
12 you look at the capacity available, they don't
13 match. There's no way you can get from here to
14 replacing this fleet.

15 So our proposal is that, to the federal
16 government and this is the railroads, the
17 petroleum producers and the railway supply
18 institute, who are very close, were a little bit
19 off in some of the specifics of the retrofit, is
20 that we need to get to a rulemaking in place as
21 quickly as we can. So what we need to get the job
22 done is what we call certainty. We need the
23 regulation in place so we have a clear path
24 forward on, number one, are they accepting the
25 CPC-1232 voluntary car as the car for the future?

1 If not, what are they looking for and how is that
2 going to impact our car building and our back
3 orders? And two, we need harmony.

4 There's an issue that cars move back and
5 forth between Canada. They're free runners,
6 because of crude oil. Not so much ethanol, but
7 crude oil. And we need to make sure that in the
8 end -- and we also know that the Canadian
9 regulators are working on rulemakings at the time
10 also and we are in communication with them. But
11 in the end we need the Canadians and the U.S. to
12 come up with a rule that is in harmony so that
13 cars can run freely between North America and
14 Canada. If not, we've got a serious situation,
15 because if we have one type of car going into
16 Canada and one in the states, one is not going to
17 allow the other to come in if they're not the same
18 standard, and it creates some problems.

19 And then lastly, relative to retrofitting
20 the existing fleet, we need a reasonable plan for
21 priority in how we retrofit the cars. And when it
22 comes to retrofit, what the government needs to
23 consider is the availability and the capability of
24 modification facilities. What we call the full
25 retrofit or the tier one retrofit, which would be

1 applying the jackets, the head shields, the top
2 fittings protection, bottom fittings outlet
3 modification. There are only a limited number of
4 certified tank car facilities that can do that
5 modification, so we need a plan that addresses how
6 we can get those cars through those facilities in
7 the quickest way possible, make sure the job's
8 done correct, keeping in mind, of course, the
9 safety of the public.

10 One of the pinch points we had is car
11 cleaning capacity. I should say in the end when
12 you package the ethanol cars and you package the
13 crude oil cars for modifications, and the balance
14 of all flammable liquids, which is also part of
15 the regulation, you're looking at about 96,000
16 cars that are going to have to make their way
17 through some type of a modification program. Now
18 some of it's as simple as applying the new safety
19 relieve valve on the bottom outlet handle, but
20 even that requires cleaning of the cars, because
21 you can't work on these cars if there are
22 flammable liquids because of the safety concerns.
23 And that's a real pinch point in the industry
24 right now, how do we get enough of these cars
25 cleaned quickly, get them to the repair facilities

1 and get them out in a timely manner so that we
2 don't shut down the industry?

3 Some tank cars will be retired or
4 repurposed, we're guessing -- not guessing. We
5 did a poll of our members and we've estimated that
6 about 28 percent of the existing ethanol and crude
7 oil cars will not make the cut for retrofit.
8 They'll either be too old to be economically -- to
9 handle the economics of the situation or they
10 won't be upgradable to 286 trucks, which will
11 throw them, we believe, out of consideration.

12 And then the last is, as I've said, is we
13 want to make sure that this plan is such that we
14 take full consideration for the safety of the
15 public and the transporting of these commodities,
16 but also try to be reasonable in the disruption of
17 the tank cars to the shippers. And that's it for
18 me.

19 COMMISSIONER SCOTT: Thank you, very much.
20 We will now hear from Union Pacific with Liisa
21 Stark, who is the Director of Public Affairs, and
22 David Wickersham, who is the Chief Engineer at
23 Union Pacific.

24 And I just want to remind all of our
25 speakers that we do have a time keeper up there.

1 He's working hard to remind you. He'll give you a
2 three-minute warning and also a please conclude,
3 just to make sure we can get to everybody and hear
4 everyone's full presentation. Thank you.

5 Welcome, Liisa.

6 MS. STARK: Thank you. Good morning.
7 Again, I'm Liisa Stark, Director of Public Affairs
8 for Union Pacific Railroad. And I do have two of
9 my colleagues here, one from Union Pacific and one
10 from BNSF, who will cover a little bit more things
11 in detail about our railroad operations.

12 But I really wanted to just take a minute
13 and just lay a little bit of a framework how
14 freight railroads operate here. And I do also
15 want to, before we begin, reiterate a point that
16 Commissioner Scott made, and that is in regards to
17 the projections of crude oil that could
18 potentially come into the state.

19 And from our perspective, as the CEC staff
20 report noted, there are a lot of things that have
21 to line up for those projections to come to
22 fruition by 2016, and from our viewpoint, we're
23 just not seeing that happening by 2016. And for
24 the railroads, the predominant factor for that is
25 because the facilities just don't exist right now

1 to bring those quantities of crude into the state.

2 So, and again, I want to say thank you for
3 allowing me to attend this workshop. I know that
4 this really, to me, is the most comprehensive
5 discussion that has occurred on this issue to date
6 and I think there's a lot of valuable information
7 that we're getting here today.

8 So to start, I just wanted to give you a
9 little snapshot of Union Pacific Railroad. We are
10 headquartered in Omaha, Nebraska. We operate in
11 23 states west of the Mississippi river and we run
12 through over 7,000 different communities. We are
13 essentially, if you think about it, a 32,000 mile
14 factory without a roof, and it takes our 46,500
15 employees every day, 24/7, 365 days a year to keep
16 that factory running safely.

17 Our California operations really represent
18 a little over 10 percent of our total rail miles
19 and employees. Very, very significant, and
20 California is obviously a big part of that
21 business. In California we have over 4,800
22 employees and we have almost 3,300 miles of
23 railroad track.

24 And if you think about -- in addition, I
25 know we're here today about crude by rail is the

1 topic of discussion, but if you really stop and
2 think about all the products and goods that we all
3 as consumers use every day, at some point most of
4 those have been transported by rail. That
5 includes the shoes you might have walked to the
6 meeting in, the components that made up your bike
7 if you rode a bike here today, materials that
8 Public Transit uses to provide safe efficient
9 service, and the cars that we drive. Also keeping
10 in mind the food that we eat is transported by
11 rail, the chemicals that we need for a safe
12 drinking water supply is moved by rail, and all of
13 that is done very, very safely.

14 Moving on, we're just building upon that
15 safety. How is it that we can be such a safe
16 industry? First of all, it's our number one
17 priority. Second of all, significant capital
18 investment in our system. And my colleague will
19 go a little bit more into detail about what
20 exactly that means, but in 2014 alone Union
21 Pacific is making a \$4.1 billion investment back
22 into our system to ensure the safety of our
23 operations, the safety of our tracks, the safety
24 of our signals and all the technology investments
25 we make to make sure the railroad is running

1 safely.

2 My BNSF counterpart, I don't know if
3 she'll mention this, but I know that they are also
4 making a \$5 billion capital investment back to
5 their system. So just between those two Class 1
6 railroads that's over \$9 billion of private money
7 going back into that system, not taxpayer funded.
8 And as we talk about, too, just the types of goods
9 or materials that are moved on the railroads, I
10 think it's important to keep in mind why we have
11 such a vested interest in keeping that system
12 safe.

13 One of those reasons is we are classified
14 as what's called a common carrier, so essentially
15 that means that the railroads cannot pick and
16 choose what type of commodity we will carry for
17 our customer. Under those common carrier
18 obligations, we're actually required to accept any
19 type of commodity that a customer gives to us,
20 provided that it is packaged according to U.S.
21 Department of Transportation regulations. So that
22 includes all the materials we move, all hazardous
23 materials we move, and that includes crude today.
24 And obviously, once that good or commodity is
25 passed on to the freight railroads, we have a very

1 vested interest in getting it from point A to
2 point B safely. And that is because we become
3 solely liable for that product once it is handed
4 off to us.

5 And from an environmental perspective,
6 rail is the most environmentally friendly way to
7 move goods today. It's four times more fuel
8 efficient than trucks. And the industry is very
9 proud to say that we can move one ton of freight
10 over 480 miles on a gallon of diesel. So that
11 would be like all of us getting 400 miles a gallon
12 in our car, so we come second behind Tesla, I
13 suppose.

14 But again, I just really want to iterate
15 that safety is absolutely our number one priority.
16 It's a priority for our employees, it's a priority
17 for our customers, and it is absolutely a priority
18 for the public.

19 And just to close I do want to say, you
20 know, we today move 99.998 percent of all
21 hazardous materials without a release from any
22 type of train incident. I think that's a very
23 significant point and that includes all types of
24 hazardous materials that we move on a regular
25 basis.

1 So with that, I'd like to turn it over to
2 my colleague, Dave Wickersham, our chief engineer
3 for the Western Region. Thank you.

4 MR. WICKERSHAM: Thank you. Good morning.
5 My name is Dave Wickersham. I'm a Chief Engineer
6 for the Western Region of the Union Pacific
7 Railroad. We have three regions.

8 I'm very honored to be here today to share
9 with you a little bit about how we maintain our
10 infrastructure, but first I want to say that I
11 live in California with my wife. My
12 granddaughters live in California with my
13 daughter. I started my career in San Francisco
14 with the Southern Pacific Railroad 38 years ago
15 today. I've done five tours of duty in
16 California. And I want to tell you that the
17 infrastructure today on our railroad is the best
18 it's ever been in those 38 years.

19 So moving forward here a little bit, the
20 Engineering Department responsibility on the UP,
21 and the BN is the same, is to design, construct
22 and maintain track bridges and structures and
23 signals for our company. Now, our mission is a
24 little complicated here, but basically our mission
25 is that those 12,500 engineering employees go home

1 safe every day and we keep trains on the track.
2 We spend \$1.6 billion of private money to maintain
3 that railroad. We also spend another billion
4 dollars in operating money.

5 So a railroad track wears out. If you
6 drive down a highway and look at a railroad track,
7 you might think it's been there a long time,
8 nothing happens to it, but it's a steel wheel on a
9 steel rail and that track structure wears out and
10 we're continuously replacing ties and replacing
11 rail as it gets to a certain age. This is how I
12 think my neighbors perceive what the railroad's
13 like. So it's like that commercial that Buick
14 puts out. This is not -- today it's not, this is
15 our great, great, great, great grandfather's
16 railroad and this is not how we maintain it.

17 So our railroad, the UP, was very
18 instrumental in uniting California with the rest
19 of the United States about 150 years ago. A
20 couple years ago this was actually a Central
21 Pacific work crew building a rail line across
22 Nevada as they met the Union Pacific coming from
23 Council Bluffs. We're very proud of that history.

24 Today's track design and construction is
25 very similar to an interstate highway that

1 Caltrans puts out. You'll see that that compacted
2 subgrade on top of earth is overlaid with about 8
3 inches of sub-ballast material, which is topped
4 with 12 inches of ballast and then your cross-ties
5 and then your rail. It's a very modern structure.
6 Original rail that was built by the Central
7 Pacific was in 30-foot lengths with splice bars in
8 between them. Our railroad, mainline railroads in
9 California are all continuously welded now. We're
10 starting to put concrete ties in California.

11 Here's an example of how rail has
12 improved. Now rail is measured by pounds per
13 yard, and the original Central Pacific line was
14 built with 60-pounds rail per yard and our
15 standard now is 136 pounds per yard and 141 pounds
16 per yard. So it kind of tells you how technology
17 has improved. And the quality of rail keeps
18 getting better and better and better. It lasts a
19 lot longer, what we're buying today versus what we
20 bought 10 years ago.

21 Today's cross-tie technology is we're
22 still a wood-tie railroad, but we're going to
23 concrete ties because they last longer and they're
24 stronger. And we're exploring other types of ties
25 like plastic ties and steel ties. Our railroad

1 replaces over 4 million ties per year, everything
2 is all mechanized now. The average tie life in
3 California, it's a dryer climate, is about 30
4 years per tie.

5 This is how we do it. This is how we
6 maintain our railroad. We have 43 fulltime
7 dedicated track inspectors in California. That
8 vehicle on the bottom right-hand corner there?
9 That's what we call a hy-rail; it's actually a
10 pickup. It can go down the highway. It's got
11 rail gear on the front and back and they can set
12 on at a road crossing. The California PUC
13 regulators that regulate our company will
14 accompany our inspector in that vehicle as he does
15 his annual inspections.

16 We have 17 managers of track maintenance
17 in California. We have 480 full time track
18 maintenance employees working in California.
19 Tracks are inspected twice per week. All our
20 mainlines are inspected twice a week. We do
21 special inspections during storms and after
22 earthquakes.

23 Here's the real key to technology that's
24 helping us out. We have two of these vehicles in
25 our company. They operate over California twice a

1 year. They're about \$10 million apiece. They're
2 arrayed with sensors underneath that car that
3 measure different track geometry parameters, so
4 they measure track gauge, which is the distance
5 between the rails, alignment, cross-level profile.

6 And we use data. There's a computer on
7 this car that analyzes what it's seeing
8 immediately and correlates it with the FRA track
9 safety standards. So if its load is required to
10 be put out or even if the track has to be taken
11 out of service, that information is highlighted
12 immediately and the guys on the car can take
13 action immediately. And then we use this data to
14 determine where we're going to do our work in the
15 next 30 days or the next year or the next 5 years,

16 Another key component of keeping trains on
17 the track in California is this rail detector
18 system. So we're required with the crude oil
19 regulations that just came out to do an internal
20 search of rail defects in our rail more than once
21 a year, and we're actually in California exceeding
22 that. Our railroad does it at least three times a
23 year and there's some areas we do it every 30 days
24 like our Tehachapi mountains.

25 But what this car does, it operates about

1 five miles per hour, seven miles per hour, and it
2 sends a sound wave through the rail and it looks
3 for an internal flaw in that rail, and when it
4 finds it then they stop, back up, they mark the
5 rail and we have crews following that day that
6 change the rail out.

7 The UP puts a tremendous amount of money
8 back into the railroad. So I've got the red card
9 here, so I'll do the rest of the slides pretty
10 quick. But this is the amount of ties and rail
11 that we're putting in every year to make sure we
12 keep trains on the track.

13 We're also doing a lot of upgrades with
14 concrete ties. These are critical mountain
15 territories in California, the best tie we can put
16 in is a concrete tie. Tehachapi mountains are
17 complete. North and south at Dunsmuir along the
18 upper Sacramento River complete with concrete
19 ties. The Feather River Canyon is complete with
20 concrete ties. Our Sunset Route where we're
21 building double track right now between L.A. and
22 Yuma is 50 percent complete and our Donner Pass
23 line is 33 percent complete.

24 This is our bridge program is very robust.
25 We have 3,100 bridges in California or 56 miles.

1 We have a very robust inspection program. We have
2 six two-person dedicated fulltime gang crews
3 working in California. We use a lot of
4 technology. That lower right-hand picture is a
5 picture of one of our two-man crews in what we
6 call a snooper truck. You'll see a little man
7 lift where the guys are actually looking
8 underneath the bridge during the annual inspection
9 of components. But that's just an example of new
10 technology helping these guys inspect bridges
11 better. We're also replacing a lot of those
12 timber bridges with steel and concrete in
13 California.

14 A real key to keeping trains on the track
15 is technology with wayside detectors. And if you
16 remember cabooses, I don't know if anybody here
17 remembers cabooses? But those two guys in the
18 back of that caboose, as the train was going down
19 the track, especially around curves, they would
20 inspect their train to see if there was anything
21 wrong with it, so they were looking for something
22 smoking or they were looking for dust on the track
23 where a car might be derailed. Well, we don't
24 have those cabooses anymore, and the reason for
25 that is all these detectors.

1 And that's a whole other subject and very
2 complicated about what all these detectors do, but
3 this is where they're located on our system. So
4 every dot there is a detector and it's almost a
5 continuous line. This has really helped us in
6 these three areas. So that first column is
7 detectors that help us determine how to maintain
8 rail cars. So you can see all the different kinds
9 of detectors and how that overlaps. And then
10 operating performance to reduce train delays,
11 those detectors help with that. But look at the
12 far right-hand column in derailment prevention.
13 So all these detectors, they really do the job of
14 that conductor in that caboose infinitely better,
15 because just about every detector prevents
16 derailments.

17 And that concludes. I tried to give a
18 little time back.

19 COMMISSIONER SCOTT: All right, thank you
20 very much. Thank you, Liisa and Dave.

21 I'd like to welcome LaDonna DiCamillo, the
22 Director of Government Affairs for Burlington
23 Northern Santa Fe Railroad.

24 Welcome, LaDonna.

25 MS. DICAMILLO: Hi, I'm LaDonna DiCamillo.

1 As Liisa mentioned, we're colleagues, I work out
2 of Southern California. She kind of did an
3 overview of railroads and I could do a similar
4 presentation, but I'm just going say ditto on
5 that. And if you put them side by side you could
6 notice some slight differences.

7 We're headquartered in Fort Worth, that's
8 probably the biggest one, and they're in Omaha,
9 but other than that our railroad operations are
10 very similar. We have different track and I think
11 there are maps out in the hallway that show the
12 different track routes. Those are the primary
13 differences between the two railroads. We each
14 own our own track routes and you can see those out
15 in the hall.

16 Listening to the other speakers that have
17 proceeded me, I am kind of doing a summary and an
18 overview of a lot of what you've heard. So if you
19 see me flip through a slide it's information that
20 I think you've gotten elsewhere in the
21 presentations that are here, but I'm going to try
22 to pull it together and talk about all the
23 different things that we're doing from a safety
24 perspective and kind of give you the overview.
25 You've seen some microcosms of what we're doing

1 and I'm going to try to pull that together.

2 As Liisa said, we are focused on safety
3 and it's extremely important to us, and our hazmat
4 shipments, all of our shipments, arrive 99.997
5 percent safely without incident. And that record
6 and those statistics are actually getting better
7 and better, our safety statistics on that.

8 As an overview of how we look at safety,
9 we are the safest mode of transportation. Our
10 view is to do prevention, which is a lot of the
11 capital infrastructure that we're talking about
12 that David has spoken of. So we invest in our
13 infrastructure to eliminate potential hazards that
14 cause derailments as a prevention issue. We do
15 mitigation so that, if there is a incident, how
16 are we going to minimize any damage from that and
17 then of course our response to that. And those
18 are some things that I'm going to cover.

19 First, our safety incident rate is going
20 down, down, down. This is extremely important to
21 us for the safety of our customers, our employees,
22 the products we carry. And we will continue to
23 focus on keeping this trend downward, but this
24 shows overall we do continue to improve on safety.

25 Kind of a general categorization of where

1 incidents, if an incident happens what category
2 those fall in. They usually fall into one of
3 these four categories, and I can show you a little
4 bit about what we're doing in each of those
5 categories as far as a prevention.

6 Of course, from human factor training
7 we're also working on what's called positive train
8 control, which is utilizing GPS positioning and
9 electronics in our cabs to help keep communication
10 in the event of the trains getting too close
11 together or something's happened in front of one
12 train that the other train can't see. This is
13 where positive train control can really fill in
14 those gaps. We are working installing that. It's
15 a very expensive program for us, but we're
16 committed to working with the federal government
17 to move forward on that.

18 Track and signal you've heard a lot about,
19 obviously that's a key focus.

20 Equipment detectors making sure that we're
21 not overheating bearings. You've heard a lot
22 about that too, but that is a key way to improve
23 safety on the railroads.

24 Capital spending, very important. We own
25 our own infrastructure. We've got to keep it up,

1 so you can kind of see with the economy how it's
2 varied a little bit, but we are doing a
3 significant investment in capital infrastructure.

4 Bridges and track, and you've heard most
5 of that from Dave.

6 One other thing that we've done is really
7 identify the trains that have the most risk, and
8 we call those key trains. It shows you how we
9 identify those, but we give them a kind of a
10 special handling also with restrictions on speed,
11 the routes that we use and how we attend to those
12 trains. A few more specifics on that speed
13 restrictions for crude that we've agreed to with
14 USDOT, and I think you're going to hear from DOT
15 later, so again I might go through some of these
16 pretty quickly but you will have the information
17 on the website.

18 Speed restrictions, of course you've heard
19 a lot, if there is a derailment, to minimize the
20 impact or the damage that's in that derailment.
21 One of those ways to do that is by reducing our
22 speeds, so that when a derailment might happen
23 there's going to be less puncturing of the tank
24 cars and less damage at that derailment. So
25 reducing speeds is a key to that. We're working

1 with PHMSA to look at risk areas and find the most
2 safe and secure ways to shut that.

3 Derailment prevention we've talked a lot
4 about and of course our emergency response and
5 training with the emergency responders that we
6 work with. And I've got some more slides on that.

7 This is a little bit about positive train
8 control. You've heard a lot about the tank car
9 standards. This is a key element of mitigation in
10 the event of a derailment. We're working to move
11 toward the new cars, the 1232.

12 That gives you -- you've kind of seen
13 this, but it is really important. There's a lot
14 of science that goes into minimizing damage at a
15 derailment that people don't really think about,
16 but we as an industry have spent a lot of time and
17 money evaluating this. But something as simple as
18 our cars are coupled together like this. In a
19 derailment they're going to go like this and push
20 into the head shields. That's why the head
21 shields are so important that those get
22 strengthened. Of course, the lessening of the
23 speeds minimizes this impact.

24 So we're doing a lot with the tank car
25 standard to improve safety in the event of a

1 derailment. BNSF has actually put out an RFP for
2 5,000 new tank cars. We're trying to stimulate
3 the turnover into these new tank cars that you've
4 heard a lot about and we believe that this RFP
5 will help move that forward.

6 And then I want to get a little bit to
7 working with our first responders. We do provide
8 shipment information to our first responders.
9 We've been doing that actually for decades of the
10 hazmat that's on different routes. We work very
11 closely in training first responders, both those
12 who are responders like our fire departments and
13 so forth. But we also do a lot of training of our
14 own employees. We have an employee team that does
15 emergency response. As well as our customers. We
16 do a lot of training with our customers to make
17 sure that the tank cars are loaded properly and
18 that the valves are sealed and checked and that
19 sort of thing. We work on those as well.

20 BNSF has already provided first responders
21 -- let me get down to that. This is an emergency
22 order. Okay, BNSF on average trains 35 local
23 emergency responders each year and over the course
24 of the last couple decades we've trained over
25 65,000 emergency responders.

1 There is a special program in Pueblo,
2 Colorado that provides in-depth emergency response
3 training. They have mock derailments all set up
4 in Pueblo. These are incredible experiences for
5 the first responders. They get to go out and see
6 valves, how the valves actually work, learn about
7 the different tank cars, participate in a mock
8 derailment. And BNSF is covering the cost of 730
9 students to go to Pueblo and learn more about how
10 to respond. This is a three-day intensive course
11 that's in addition to the training that we do
12 where we come around and bring a tank car to the
13 emergency responders. So this is above and beyond
14 a specialized training.

15 This kind of gives you an idea of the
16 emergency response equipment that we have placed
17 along the system and these are the locations where
18 we have responders and this additional equipment
19 throughout our system. And, of course, if there
20 is a derailment, we restore the site back to its
21 original condition, so that's an important part of
22 our process also.

23 So hopefully I've left a little bit of
24 time for questions. Sorry I ran through those
25 quickly, but like I say, the information, a lot of

1 it you've heard, and it is on your website.

2 COMMISSIONER SCOTT: That was fantastic,
3 thank you.

4 Let me invite -- wait a minute, where my
5 agenda -- Bill back up to the podium. And we will
6 take some questions. I will start with Chair
7 Weisenmiller.

8 CHAIRMAN WEISENMILLER: Thanks. I've got
9 two questions. One of them is of the four or five
10 billion a year that you spend in capital
11 investments, roughly how much is in California, if
12 you know? If not certainly later?

13 MS. STARK: Actually it was online, so I
14 think it's about \$426 million.

15 CHAIRMAN WEISENMILLER: Okay. And okay,
16 other question is, obviously one of the things
17 we've been talking about more from an air quality
18 perspective is LNG. So I was trying to understand
19 how shifting you over to LNG and then carrying
20 that, what issues that raises on the tanker cars
21 and where that stands with the Feds now?

22 MS. STARK: Just to clarify is the
23 question on the LNG in the locomotives or LNG
24 being transported in tank cars?

25 CHAIRMAN WEISENMILLER: In the

1 locomotives.

2 MS. STARK: Okay. I'll speak on behalf of
3 Union Pacific and my colleague can comment on that
4 as well.

5 As with any technology that you're looking
6 at utilizing in the freight system, it takes a lot
7 of testing to get to a point where it can be equal
8 to what you're using today. We have long heavy
9 trains, so if you're going to put it into what we
10 call revenue service, which is on the mainline
11 getting a product from point A to point B, it has
12 to be dependable and it has to be performance-
13 centric and comparable to what we utilize today.

14 That being said, we are actually in the
15 process of testing LNG as a potential source, but
16 again, that testing period is lengthy, but we are
17 undergoing that right now.

18 CHAIRMAN WEISENMILLER: And I was thinking
19 particularly on what we'd have to do in terms of
20 the tanker safety for as you convey LNG along with
21 the locomotives, if it's anything different than
22 what you would do for either oil or ethanol.

23 MS. DICAMILLO: Honestly, I don't think
24 we're far enough in that process. There would
25 have to be an LNG tender car with the locomotive

1 if it is fueled by LNG. And that might be a good
2 question for FRA, who I think you have later
3 today. They're looking at how we might be able to
4 do that, but there's a lot of process that going
5 to be involved in that.

6 CHAIRMAN WEISENMILLER: Okay, thanks.

7 COMMISSIONER SCOTT: I have a question
8 from Cliff for Bill Finn. One of your points was
9 that we need to harmonize U.S. and Canadian
10 standards. Are you okay with the U.S. adopting
11 Canada standards?

12 MR. FINN: Well, we know this, that
13 they're communicating on a weekly basis and
14 they've had several meetings and we think they're.
15 at least from what we know now, we think the two
16 rulemakings will converge and we're hopeful that
17 they'll be harmonious at that point. It's hard
18 right now to read where PHMSA's going. Canada has
19 indicated some recommendations relative to the
20 existing fleet and a quick turnover of the cars,
21 but they haven't really been opened up for what
22 they call public discussion, which they will at
23 their point in time.

24 COMMISSIONER SCOTT: Okay, great. And I
25 have a question while you're still there, Bill.

1 About how many new rail cars do you think the
2 industry can build each year?

3 MR. FINN: Well, 34,800 is the current
4 capacity. There could be a little more capacity
5 coming on, but we don't think that'll change that
6 dramatically. And to put that into perspective,
7 at the down cycle of the last ethanol build we
8 were down to 4,000 cars, so we've reached that up
9 to 33,400, which is a significant increase in
10 capacity.

11 COMMISSIONER SCOTT: Thank you. One other
12 question from Cliff for Liisa and LaDonna. What
13 timeframe would you propose for phasing out all
14 legacy tank cars?

15 MS. STARK: I'll take that. I can
16 probably speak on behalf of both railroads, but as
17 part of the rail industry we have already called
18 on the federal government to make those changes
19 and recommendations, keeping in mind right now
20 that those legacy tank cars meet all federal
21 standards for transportation. We would like see
22 that obviously happen, you know, as soon as
23 possible and we've encouraged the federal
24 government to do so.

25 COMMISSIONER SCOTT: Okay. And so you

1 don't own any of the cars?

2 MS. STARK: We do not.

3 COMMISSIONER SCOTT: LaDonna, same thing?

4 MS. DICAMILLO: Yes.

5 COMMISSIONER SCOTT: Okay. All right, I
6 know Commissioner Douglas has some questions, so
7 let me turn to her.

8 COMMISSIONER DOUGLAS: All right, thank
9 you. One question about the rail cars is, I was
10 interested in learning a bit more about
11 modifications. You were talking about
12 modifications of the older tank cars. How
13 effective is that? How close does that get them
14 to the safety level of the new cars and what's the
15 cost of doing that?

16 MR. FINN: Well, the modification will be
17 very close to the safety level of the new cars,
18 because it basically mimics the new car design.
19 The only difference is some of the steel may not
20 be the normalized steel and we may not be able to
21 get 100 percent of the top fittings protection,
22 but we're very, very close. The total cost of the
23 retrofit including all the cars that I've talked
24 about, the flammable liquid cars, is about \$3.6
25 billion.

1 COMMISSIONER DOUGLAS: And how does the
2 modification cost compare to building new cars,
3 for example?

4 MR. FINN: Well, a new car is probably
5 right now, and this is just general, we don't
6 collect information from specific car builders
7 because of trade considerations, but the cost of a
8 new car is probably in the neighborhood of about
9 \$140,000 to \$160,000. The cost of a modification
10 is anywhere from about \$63,000 to add another
11 10,000 for modifications of trucks.

12 COMMISSIONER DOUGLAS: All right, thanks.
13 Quick question about the -- I was kind of
14 intrigued to see the presentation on concrete
15 railroad ties. I just wanted to ask what are the
16 advantages of concrete railroad ties, how
17 advantageous are they, and how do you prioritize
18 where you put them?

19 MR. WICKERSHAM: Well, concrete ties are
20 more economical in the long run because they're a
21 stronger tie and they last longer; more
22 environmentally friendly because we're not using
23 creosote to preserve the wood tie. We're using
24 them strategically. We can't spot them in like
25 one out of every five, because we tried that and

1 that didn't work, so you have to replace all of
2 them. So it's a big capital investment up front.
3 So our railroad's putting in about 500,000 a year
4 and I think the BN's comparable, so we're not
5 going to be a concrete tie railroad for completely
6 until probably another 50 years.

7 But the strategy is to put them in the
8 areas that are more maintenance intensive like our
9 mountain grades. And then we put them in our
10 metropolitan areas, so we're basically the L.A.
11 basin on the BN and UP is pretty much about 80
12 percent concrete ties. So you want a stronger
13 track structure in your metropolitan areas.

14 And then we put them in our heavy freight
15 tonnage areas, so where we're running 50 trains,
16 60 trains across our Sunset Route, that's an area
17 where we want to put concrete ties in, because
18 wood ties you've got to go in like every eight
19 years and replace about 25 percent of them to keep
20 your railroad track structure up to snuff. So
21 every time you do that you take eight hours of
22 capacity out of that rail line, so that's a big
23 interference to meeting the needs of our
24 customers. So if we put concrete ties in we think
25 we're going to get 50, 60, 70 years out of those

1 ties. That's our strategy.

2 COMMISSIONER DOUGLAS: That makes sense.
3 And then are the concrete ties -- I can clearly
4 hear that you're reducing the maintenance and the
5 need to go back as often and replace ties. Are
6 they also less prone to risk of derailment? Are
7 they similar in that regard, how do they -- what
8 about their performance?

9 MR. WICKERSHAM: Yeah, absolutely.
10 Absolutely. Just going back in my career in to
11 Tehachapi, we were having a derailment every
12 month. And it could be track caused, it could be
13 human factor, it could be mechanical. And then
14 when we put concrete ties in there we eliminated
15 that. So what is does is, you might have a
16 marginal problem with a car, but it's looking for
17 a kind of a marginal problem with the track, so if
18 you have a really strong track structure you can
19 eliminate mechanical derailments. And that gives
20 our inspectors a chance to find it in the yards,
21 our inspectors and state inspectors a chance to
22 find it.

23 The same thing with a human factor
24 derailment. So if a train engineer is not quite
25 handling his train right, concrete ties will

1 prevent that car from derailling at that moment.
2 And that gives us, our transportation managers, a
3 chance to find that engineer's behavior from
4 studying the downloads from our black boxes, we
5 call them event recorders. And educate that
6 engineer before we put a car on the ground.

7 COMMISSIONER DOUGLAS: Okay. And then,
8 you know, one of the concerns that people around
9 here will obviously voice is the seismic concern.
10 You know, I was curious if concrete ties or other
11 types of track upgrades help address the seismic
12 concern or what does in terms of the track itself?

13 MR. WICKERSHAM: That's a good question.
14 I haven't really thought of that. I don't think
15 there's an advantage to concrete ties for that.

16 COMMISSIONER DOUGLAS: Okay.

17 MR. WICKERSHAM: It is stronger. We might
18 get less alignment. You know, if we were right on
19 top of the fault where you get an alignment shift,
20 you might get less of an alignment shift. But
21 we're tied into the notification, both centralized
22 dispatching offices, the BN and Fort Worth and our
23 dispatching office in Omaha. We get notification
24 when earthquakes occur, what the magnitude is.
25 And then both railroads have kind of a protocol

1 what do. So at a certain magnitude we stop all
2 trains. A lesser magnitude we might just put a
3 slow order out for trains until we can get the
4 area inspected. And then there's certain
5 geographical area we inspect based on the
6 magnitude.

7 COMMISSIONER DOUGLAS: Okay, and if a
8 train happens to be in an area when an earthquake
9 occurs does it stop, does it slow down, what is
10 it?

11 MR. WICKERSHAM: Well, what would happen
12 is immediately that dispatcher gets the
13 information. He's got that information readily
14 referenced. And he starts calling on the radio
15 every train that, "We've had an earthquake and
16 you're immediately required to reduce to 25 miles
17 per hour."

18 One time in my career we did have a
19 derailment. It was the Northridge earthquake and
20 we had a train right there at the epicenter and we
21 derailed about 25 cars there. I actually
22 responded to that one. And then fortunately we
23 didn't have anybody hurt in that derailment, but
24 the locomotives turned on their side. You
25 remember that earthquake lifted up about a foot to

1 two feet lifted up and went down. It wasn't kind
2 of a sideways earthquake, but we were fortunate in
3 that one.

4 COMMISSIONER DOUGLAS: Okay, thank you.
5 Just a couple of other questions kind of on -- oh,
6 go ahead.

7 COMMISSIONER SCOTT: Just have one
8 briefly. But the other question I had for you is
9 you had mentioned in your presentation that you
10 have two of the train cars that can come and drive
11 around and take a look at the track and that they
12 come to California about twice a year. How much
13 of the track are they able to look at when they
14 are here?

15 MR. WICKERSHAM: Well, they operate at
16 track speed, so we cover 100 percent of our
17 mainlines with those two cars.

18 COMMISSIONER SCOTT: Oh, okay. They do
19 the whole thing and they do that twice a year;
20 they can do all of the track in California?

21 MR. WICKERSHAM: Twice a year, that's
22 correct. And we're actually looking at increasing
23 that frequency in our mountain territories in
24 California as part of this crude oil initiative.

25 COMMISSIONER DOUGLAS: So a different line

1 of questions really. How closely do the railroads
2 track products, you know, what products are
3 carried by what trains to what locations? I mean,
4 I can imagine this would be a big record-keeping
5 operation, but I can also imagine it would be hard
6 to build and that you probably need to keep that
7 information. I'm sure --

8 MS. STARK: Sure, there's several ways
9 that that is tracked. Obviously, we have a
10 manifest for every train crew that has a train
11 although the train cars are GPS tracked as well.
12 And everything besides the train crews and the
13 yards, that know where all of the cars are at any
14 given time, everything is also centrally tracked
15 out of our dispatch systems at corporate
16 headquarters so we can at any given time pull up a
17 list and show where everything is on our system at
18 any time.

19 COMMISSIONER DOUGLAS: At any time, you
20 know, you'll know where all the trains are?
21 You'll know what all the train cars are carrying
22 and where they're going?

23 MS. STARK: Absolutely.

24 COMMISSIONER DOUGLAS: Okay. And do you
25 maintain that information? I mean, is that

1 maintained on a going back or going forward basis?

2 MS. STARK: Just to make sure I understand
3 the question, it's every time we get a product
4 from a customer, we deliver a product to a
5 customer, our system is updated, so we do know
6 where that is at all times. As far as everything
7 that's in the car itself, we do have an idea of
8 the type of commodity it is, but if it's real
9 specific information that's something that the
10 shipper, which is our customer, would actually
11 have. Does that answer your question?

12 COMMISSIONER DOUGLAS: Sort of, it helps.
13 I mean, I'm kind of wondering, well, if we wanted
14 to ask specifically how many shipments of this
15 kind of crude have originated in this area and
16 ended up in that area, you know? And then we had
17 Gordon talk about how well, you know, the
18 shipments might come to a hub and might be
19 intermixed with other shipments and might end up
20 in different destinations. So is that information
21 that you currently keep? If we said in the past
22 12 months how many shipments of this kind of crude
23 have gone from here to there?

24 MS. STARK: Yeah, and we can do that
25 actually for all the commodities that we carry

1 right now. And we do provide commodity flow data
2 that's the previous snapshot of the previous 12
3 months to any emergency response agency that wants
4 to see that.

5 There's obviously with other hazardous
6 materials a little bit different requirements on
7 the disclosure of that for Homeland Security
8 purposes than there is with crude, but again under
9 the U.S. Department of Transportation Order that
10 came out we are required right now to report
11 shipments of Bakken on, I think it's 35 cars or
12 more that are transported in one train. And then
13 the routing of those as well to each state, so
14 that is also occurring right now.

15 COMMISSIONER DOUGLAS: So one of the
16 things that we've been hearing and reading about
17 is that some kinds of crude are obviously more
18 volatile and might respond differently in the
19 event of a derailment than others. And, of
20 course, the Bakken is a case in point.

21 So do you -- you know, we also heard today
22 that while there are cars being manufactured at
23 higher safety levels and there's an effort to get
24 those online as fast as possible, nevertheless,
25 we've got a fairly significant number of legacy

1 cars in the fleet currently operating. Is there
2 an effort to match up the strongest cars with the
3 more volatile product? How is that actually done?
4 Or is it really a matter of, you know, there's
5 this larger shipment and we've just got to get
6 cars there and move it and whatever is available
7 is available?

8 MR. FINN: I was at a workshop last week
9 and we saw presentations from the oil
10 classification working groups, and three different
11 groups reported that their initial evaluations of
12 Bakken is that it's not any different than any
13 other light sweet crude. Now, whether or not
14 that's the way it's going to be and whether in the
15 future, and whether the government accepts that
16 still is up for discussion, I believe. But at
17 least from what we've seen, the initial reports
18 are it's not really any different from what
19 they've been hauling.

20 COMMISSIONER DOUGLAS: So does that mean
21 that currently, UP and BNSF, there's not a -- you
22 know, is the prevailing view that crude is crude
23 or is there some distinction? Or is light crude
24 generally --

25 MS. STARK: Yeah, that's actually not a

1 factor that the railroads have any control over,
2 because we don't actually own the tank cars. It's
3 the shipper or the customer that owns the tank
4 cars, so that is completely out of our realm of
5 influence.

6 COMMISSIONER DOUGLAS: Okay. Thanks. I
7 think I'm done, go ahead.

8 COMMISSIONER SCOTT: Yes. Well, I was
9 going to thank our panel on the Crude Oil
10 Distribution Logistics. Bill and Liisa and David
11 and LaDonna, we appreciate the information that
12 you brought to us today. Thank you very much.

13 Okay, great. And I would like to just,
14 before we go to our next panel on government
15 responsibilities on crude oil distribution
16 logistics, welcome -- we have some city council
17 members with us. We have Chris Worthington from
18 the Berkeley City Council. We have Karen Hemphill
19 from the Berkeley School Board, she's a Berkeley
20 School Board Director. We have Linda Myo from the
21 Berkeley City Council. We have Alana Floyd also
22 from the Berkley City Council office. And
23 Jonathan Gaast from Congresswoman Barbara Lee's
24 office. So welcome. Thank you all for joining us
25 for the for this today.

1 I will do a time check. It's about 12:10.
2 We are a little bit behind, so we'll do this last
3 panel. Maybe we'll just do a couple short
4 questions and then break for lunch.

5 So let me welcome Laura Kovary who, is the
6 Chief of the Marine Facilities Division in the
7 California State Land Commission. Welcome, Laura.

8 MS. KOVARY: Thank you. I'd like to thank
9 the Commission for this opportunity to address you
10 on this important topic. Let's see, how do I
11 change the slides? Just this button, okay.

12 Okay. I'd just like to start with a short
13 introduction of the Marine Facilities Division of
14 the California State Lands Commission. Marine
15 Facilities Division was created under Lempert-
16 Keene-Seastrand Oil Spill Prevention and Response
17 Act of 1990. Our goal is to prevent oil spills in
18 state waters. We're able to accomplish this goal
19 through annual inspections, spot inspections, our
20 Marine Oil Terminal Engineering and Maintenance
21 Standards, MOTEMS, and monitoring of marine oil
22 transfers.

23 We do not have enough personnel to attend
24 every oil transfer; therefore, we use a risk-based
25 system to prioritize which transfers we will

1 monitor. If either the tank vessel or the marine
2 oil terminal are considered high risk, our
3 personnel will be present for the most critical
4 portions of that transfer. These are normally the
5 startup and end of the transfer, and we make every
6 effort to have personnel available 24/7.

7 The MOTEM standards began as a way to
8 ensure that marine oil terminals in the State of
9 California were up to California building codes.
10 There were some terminals that were built in the
11 early 1900s and they were lacking in both
12 maintenance and upgrades. MOTEMS established a
13 system requiring not only initial audits and
14 repair work, but also regularly scheduled
15 subsequent audits.

16 All marine oil terminals in California
17 were assigned a risk classification based on the
18 number of barrels of cargo that was at risk should
19 the terminal be damaged either by a vessel or some
20 sort of event, seismic or otherwise. And other
21 risk factors that were considered were the number
22 of transfers per year and the size of the vessels
23 that called at those marine terminals.

24 Each terminal is required to have a
25 mooring and berthing analysis completed. The

1 result of that analysis is required to be shared
2 with terminal personnel, local pilots, and the
3 ships that call at those berths.

4 MOTEMS also looks at fire protection and
5 suppression for the area of the marine terminal
6 that falls under our jurisdiction, and that is up
7 to the first valve ashore within secondary
8 containment.

9 MOTEMS also requires a seismic analysis,
10 and any deficiencies are noted and tracked to
11 completion of repairs.

12 MOTEMS does differentiate between
13 corrections required for existing terminals and
14 those required for a new marine oil terminal. Our
15 engineers have taken into consideration the
16 limitations of an existing terminal and its
17 infrastructure versus building a brand new
18 terminal from the ground up.

19 Marine Facilities Division works closely
20 with the U.S. Coast Guard on marine oil terminal
21 inspections. Following 9/11 we were tasked by the
22 U.S. Coast Guard to establish marine oil terminal
23 security regulations. The Coast Guard realized in
24 that situation that to establish marine oil
25 terminal security would take going through the

1 entire CFR process. So MFD was able to fill that
2 void and have port security for marine terminals
3 in a very short period of time.

4 Marine Facilities Division works very
5 closely with the State Fire Marshall on pipeline
6 inspections and other marine oil terminal issues.
7 We also have a sister relationship with
8 California's Department of Fish and Wildlife's Oil
9 Spill Prevention and Response known as OSPR. Our
10 field personnel will often inspect mobile oil
11 transfers over water and we're currently looking
12 at other ways to support OSPR in their mission.

13 The next two slides are a visual
14 representation of crude movement into California
15 through marine oil terminals. The first slide
16 shows a fairly steady decline in Alaska North
17 Slope crude. This is what the experts have been
18 referring to over the last several years.

19 This slide shows crude imports from 2003
20 to 2013 with total barrels ranging from 225
21 million barrels up to 300 million barrels in 2008.
22 The average range of imported crude through marine
23 oil terminals seems to be around 280 million
24 barrels.

25 This slide shows non-imports of crude oil

1 arriving through marine oil terminals. This would
2 be crude from domestic sources, but coming in
3 through U.S. ports either by barge or ship.

4 I'd like to talk for a few minutes about
5 some of the hazards associated with crude oil.
6 The hazards are not new, but in my opinion,
7 populations are growing in areas where we drill
8 for oil, in the areas through which we're
9 transporting oil and in the areas where there are
10 natural seepages. There have always been sour
11 crudes or crudes with a high H₂S content. These
12 can be deadly inhalation hazards. High
13 vaporization rates are also being seen with some
14 crudes, which can increase volatility and the
15 possibility of hydrocarbon releases. Both of
16 these issues can obviously cause public health and
17 worker safety risks. Additionally, a release of
18 crude oil into the environment can cause long-term
19 effects due to the persistent nature of the oil.

20 The gaps I've noticed in regulations are
21 one with H₂S, as I referred to in the last slide,
22 and the relatively new biofuel and renewable
23 diesel markets. There's a wide range of what we
24 refer to as biofuels and these can have various
25 flash points. Under the Lempert-Keene-Seastrand

1 Act, Marine Facilities Division can only regulate
2 biofuels if they are mixed with hydrocarbon
3 components. I think the regulatory community
4 needs to stay engaged in the changing biofuel
5 industry.

6 I wanted to include a couple of slides of
7 maritime disasters that changed my life and the
8 lives of many other mariners. Sadly, both of
9 these explosions came with loss of life and damage
10 to the environment. I actually was a cadet on a
11 vessel across the channel at the time of this
12 explosion and I saw it happen, so it definitely
13 did change my life.

14 Although the focus here today is on crude
15 by rail, I'd like to draw some parallels with
16 crude oil transportation by sea.

17 On December 17th, 1976, the 810 foot
18 Sansinena was completing crude oil discharging
19 operations in Los Angeles Harbor. The crew was
20 ballasting, which is the process of taking on sea
21 water into tanks in order to increase stability.
22 This displaced hydrocarbon vapors from the tanks
23 onto the main deck through open vents. The lack
24 of wind in the harbor that night was a key factor
25 in the explosion. If there had been a breeze the

1 vapors would have likely disbursed. However, at
2 7:38 P.M. something aboard the Sansinena sparked,
3 setting off the explosion. Nine people died as a
4 result of that explosion.

5 One of the conclusions of the Marine
6 Casualty Report was that deterioration of vent
7 piping was a contributing factor to the explosion.
8 It was also noted that the rate of deterioration
9 of piping varies with the type of cargo. The
10 Sansinena had previously carried sour crudes for
11 an extended period then switched out of that
12 trade. Sour crudes are known to be corrosive, and
13 if the vessel had continued in that trade, the
14 deterioration of the piping might have occurred
15 even sooner.

16 The Betelgeuse disaster at Bantry Bay,
17 Ireland took even a larger toll than the Sansinena
18 with a loss of 60 lives, including the entire crew
19 of the Betelgeuse and some of the terminal
20 personnel who were on duty that morning.

21 Partly due to these disasters the
22 International Maritime community made changes in
23 the way that crude oil is transported by water. A
24 couple of these changes were to require closed
25 loading and discharging operations and for the use

1 of inert gas to replace ambient air, therefore
2 keeping oxygen away from flammable vapors.

3 After the grounding of the Exxon Valdez
4 more changes were made, including double-hulled
5 tankers and bridge management systems including
6 STCW, which is Standards for Training
7 Certification and Watch Keeping. This defines the
8 competency requirements of crews.

9 More recently the oil industry has been
10 developing safety management systems for marine
11 oil terminals through the Oil Companies
12 International Marine Forum, or OCIMF, including a
13 baseline criteria auditing process. So these are
14 some of the changes that followed the lessons
15 learned and the reports coming from the Sansinena
16 and the Betelgeuse.

17 So I would invite and encourage the rail
18 industry to take some of these lessons learned
19 from the maritime industry and look towards safety
20 management systems and prevention first. Thank
21 you.

22 COMMISSIONER SCOTT: Thank you very much,
23 Laura.

24 I'd now like to welcome from the Office of
25 the State Fire Marshal Pipeline Safety Division,

1 Bob Gorham, the Division Chief. Welcome, Bob.

2 MR. GORHAM: Thank you. Okay. Well,
3 thank you for inviting me. Somebody does water
4 transportation, I do pipeline transportation,
5 which I think is I think the safest alternative.
6 But I just wanted to describe our program. We've
7 been around for about 30 years.

8 The regulatory oversight. We are actually
9 partners with the Federal DOT Pipeline Haz
10 Material Administration. They're responsible for
11 the nation's safe transportation regulations for
12 pipelines. Presently in California they regulate
13 about 1200 miles of interstate liquid pipelines.
14 States are encouraged by them to have certified
15 programs. The State Fire Marshall has been
16 certified since 1985 and we regulate the
17 intrastate pipelines and we have about 4500 miles
18 of those.

19 This is kind of the infrastructure we have
20 in California, pretty evenly divided between crude
21 oil and refined product pipelines. We regulate a
22 total of 842 separate pipelines, 52 different
23 pipeline operators, and about 780 breakout tanks.
24 Commodities include basically all petroleum
25 products: crude, gasoline, diesel, jet fuel,

1 ethanol. We also have -- if we had any we'd have
2 CO2 and anhydrous ammonia, but presently there are
3 no pipelines in California carrying those
4 products. And also the butane, propane and
5 highly-vol liquid.

6 Since we're talking about oil I thought
7 I'd do -- well you can see this map outside, but
8 new and existing pipelines are being designed and
9 constructed to handle the increased demand from
10 crude oil unloading facilities. Hazard liquid
11 pipelines are constructed of high-strength steel
12 and are designed to transfer all types of
13 petroleum products of various flammability,
14 gravity composition.

15 And existing federal regulations require
16 the pipeline operators to continuously monitor,
17 investigate any potential corrosive effects of the
18 haz liquid and take mitigative actions for
19 internal corrosion.

20 And what I'm trying to say on all of this
21 is California has quite a mix of, over the years,
22 of different kinds of petroleum products, so the
23 infrastructure's already capable of handling any
24 of the West Texas or Bakken oil as it comes into
25 the pipeline systems and the federal regulations

1 are in place to ensure that the operators monitor
2 those correctly.

3 Briefly, this is our organization. The
4 Division Chief, we've got two engineers, ten
5 inspectors, some clerical mapping people. We have
6 offices in Sacramento, Bakersfield and Lakewood.

7 These are the type of things that we look
8 at when we inspect a pipeline operator. Make sure
9 they're qualified, that they have a public
10 awareness program. We look at the design and
11 construction of their facilities. We investigate
12 their accidents, make sure that they're out doing
13 emergency response procedures. They're required
14 to be drug and alcohol tested, integrity
15 management and control room. Quite an intensive
16 inspection program.

17 Some of our response capabilities -- I'm
18 kind of going through this because I know everyone
19 wants to go to lunch, so if you have any questions
20 you can call me later.

21 Anyways, so we've got one thing being a
22 state fire marshal and we're a bunch of engineers.
23 We're not really fire people, like we were fire,
24 but we've emerged as Cal Fire. But the advantage
25 of being a state fire marshal is we have a really

1 close relationship with the Fire Service and I
2 think that puts us unique in the country.

3 So we get notified on any pipeline spill
4 or train derailment, for that matter. And then we
5 evaluate those responses from the OES. We
6 determine if we have any pipelines in the area,
7 whether we need to contact the operator, send
8 somebody out to investigate. And so, you know, we
9 follow up on all of those. That's a 24-hour day,
10 365 days a year we get notified of all train
11 derailments and all pipeline fails.

12 And what we look for on train derailments
13 is they could -- Santa Fe Southern Pacific used to
14 be Santa Fe Pacific Pipelines, so if a train
15 derails it may impact the pipeline buried below,
16 so we want to make sure that the appropriate
17 companies are aware of that.

18 One of the unique things that our program
19 has is our integrity testing. We were the first
20 state in the country, and actually we beat the
21 federal government by 15 years, to require every
22 pipeline to be hydrostatically tested or
23 internally inspected every five years. We have a
24 couple dozen independent testing firms that
25 witness every test that the pipeline companies

1 conduct. We review all those reports as they come
2 to the office and we make sure that every one of
3 our pipelines we regulate are being properly
4 inspected and tested.

5 As I said earlier, all of our emergency or
6 our civil penalty funds are dedicated solely for
7 emergency response training, so that's gradually
8 building up. And we do conduct training exercises
9 or provide training courses for local fire
10 response. So that fund can be, as we move forward
11 in this, I think used more fully to help meet some
12 of the needs of this program.

13 Authority, we have exclusive safety
14 regulatory enforcement authority over the lines,
15 so basically we preempt local government and other
16 state agencies on the safety aspects of a
17 pipeline. We also focus on the safe design,
18 construction, operation, maintenance of the
19 pipeline to protect public safety and environment.

20 What we don't have authority, though, is
21 we don't have authority to approve projects, issue
22 permits or prescribe location of routing of the
23 pipeline facilities. So the local communities and
24 agencies can debate whether or not where the
25 pipeline could go, how it operates and stuff, but

1 once it gets permitted, that's where we step in
2 and make sure that it's safely constructed,
3 designed and operated through its lifetime.

4 We don't track throughputs or volumes;
5 that's Gordon's job. It really doesn't matter how
6 much is going through it. We don't care if
7 they're making a profit on it; we just want to
8 make sure it stays in the pipeline. And we don't
9 direct cleanup after a spill; we turn that over to
10 Fish and Wildlife or OSPR or local agencies.
11 They're the experts in that area.

12 We do, as I mentioned earlier, have a
13 couple of coordination agreements. We have an
14 agreement with DOGGR. Basically, when they end
15 their production and they ship it off into
16 pipelines that we regulate, we want to make sure
17 that we properly cover -- there's no gaps in
18 regulation between the two agencies.

19 And then also at the marine terminals, as
20 mentioned, we want the operators to know what
21 regulations they need to comply with, so we've
22 jointly inspected each marine terminal, determined
23 is that a State Fire Marshall regulated pipeline
24 or is that a State Lands regulated facility.

25 Other areas of coordination with the

1 federal government, we do team inspections of a
2 lot of our operators across the country, also in
3 California, that we team up with the federal
4 inspectors and do joint inspections. It helps us
5 get a better, broader perspective of the company
6 operation.

7 We also cooperate with the Department of
8 Fish and Wildlife on spill responses and make sure
9 that they get the information they need and we get
10 the information we need to conduct the
11 investigation. And we routinely provide technical
12 and informational assistance to basically any
13 state, county or local government that needs our
14 assistance. And that's it.

15 COMMISSIONER SCOTT: Thank you, Bob.

16 Let me invite Laura and Bob both up and I
17 will see if I have questions here from the dais.

18 I do have one question for Laura. And I
19 just wondered whether or not you have completed a
20 review or approved from your MOTEMS program a
21 compliance plan from any of the crude by rail
22 projects like the WesPac in Pittsburg or the Targa
23 at the Port of Stockton?

24 MS. KOVARY: We have spoken to the Targa
25 folks about the Stockton project. I have my

1 engineer in the audience, Avi.

2 AVI: Yes, it looks like we have completed
3 that one (inaudible)

4 COMMISSIONER SCOTT: Oh. The answer was
5 they have completed the WesPac. I'll just repeat
6 it so the folks on WebEx can hear. Okay, thank
7 you.

8 I don't think we have any other questions,
9 so thank you again, Laura and Bob, for your great
10 presentations and letting us know what your
11 offices do in regards to this, so thank you.

12 I just wanted to do a reminder to everyone
13 in the audience that all the slides that have been
14 presented here today are available on the website.
15 The link to that is in the agenda and also on the
16 notice so that you will be able to access those.

17 Also a reminder that if you would like to
18 make a public comment please be sure to get the
19 blue card from our public adviser who's sitting up
20 front and fill that in so she can get it to us.

21 And we're actually -- we'll come back at
22 1:30, 1:30 sharp. Thank you.

23 (LUNCH RECESS)

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AFTERNOON SESSION

COMMISSIONER SCOTT: Hello everybody and welcome back from the lunch break. We want to go ahead and get started, so we would like to -- we've got an addition to our agenda for this afternoon. We would very much like to warmly welcome Assemblywoman Nancy Skinner and she has a few remarks for us.

Welcome Assembly member Skinner.

ASSEMBLY MEMBER SKINNER: Thank you, Commissioner Scott and Chair Weisenmiller and, Karen, I'm forgetting your last name. I've known her so long.

Anyway, I'm very happy that the Commission is doing this event here in District 15. Obviously, the I-80 corridor, all the cities along the I-80 corridor, the trains run right through there and this is a very, very large issue of concern. I wanted to just bring some attention to some things that the Legislature recently did in the budget that may have been touched on earlier, but since I wasn't able to be here earlier I don't know, but I thought I would fill you in.

The budget for this next 14/15 year was adopted on Father's Day, and in it we included

1 funding to add seven additional safety inspectors
2 to the CPUC. The CPUC has responsibility for the
3 inspection of the railways themselves, the cars
4 and such, the trains rather, and it includes
5 oversight of rail bridge safety, and the
6 additional inspectors are paid by a fee on the
7 rail carriers, meaning like BNSF, Union Pacific,
8 etcetera.

9 The other thing that we did in the budget
10 was we expanded California's what's called OSPR,
11 Oil Spill Prevention and Response Network. It's
12 been up to this point pretty much focused on
13 marine and waterway only, and we expanded it to
14 cover the whole state, including inland waterways
15 and obviously land spills too since no one can
16 predict where, if there is a problem in any of the
17 train transport, no one could predict where it
18 would be, so we needed to have that spill recovery
19 ability statewide. And we provided for funding
20 for 38 new positions for prevention, emergency
21 response, cleanup and enforcement, and that is
22 also on a fee, a per barrel fee, okay, similar as
23 the per barrel fee on refineries.

24 There's also a number of bills that are
25 working their way through the Legislature right

1 now. One of them, AB380, has passed two Senate
2 committees. There's not been a floor vote yet.
3 But it would ensure that state and local emergency
4 responders have information about what's moving
5 through and when, so that like our other emergency
6 preparedness networks, we would be more prepared.
7 So that's that bill that's moving through, not yet
8 passed by any floor.

9 And then SB1319, which has passed the
10 Senate, now in the Assembly, and it would require
11 that oil spill prevention response entity that I
12 mentioned previously to provide training and
13 equipment grants to local first responders. So
14 those are county based, city based first
15 responders. And it requires the state to study
16 where the response would be most needed in either
17 urban, rural and sensitive environments, so
18 meaning all of the above but for the state to
19 determine that in advance. And it would also
20 include disclosure of oil transport to the local
21 emergency responders.

22 So I thought that might be helpful as you
23 pursue this discussion to get updated on both what
24 we included in the budget and also what
25 legislation is moving through.

1 And I again very much appreciate the
2 Commission holding this event here in one of the
3 primary corridors affected and look forward to
4 some good outcomes. Thank you.

5 COMMISSIONER SCOTT: Thank you so much.
6 Thank you so much, Assemblywoman Skinner, for
7 joining us today and for the information on both
8 the budget and on the bills that are moving
9 through the Legislature. I think it was
10 incredibly helpful and we are just delighted that
11 you could join us today, so thank you.

12 I just wanted to note that the lunch break
13 is finished and you have here me, Commissioner
14 Janea Scott. I am joined by Commissioner Karen
15 Douglas from the Energy Commission, by Cliff
16 Rechtschaffen from the Governor's Office, by Ken
17 Alex from the Governor's Office, and by our Chair
18 Bob Weisenmiller, so I just wanted to make sure
19 folks know who is here.

20 We are now going to turn to our panel on
21 government responsibilities, safety requirements
22 and oversight for crude by rail movements, and our
23 first speaker will be Ernie Sirotek from Region 7.
24 He's a hazmat specialist from the U.S. Department
25 of Transportation Federal Railroad Administration.

1 Welcome, Ernie.

2 MR. SIROTEK: Thank you. Thank you for
3 having me here to speak about the Federal Railroad
4 Administration. I am a hazmat specialist
5 headquartered in Sacramento, California. There
6 are eight regions within FRA plus a headquarters
7 section. Within each of the regions -- our region
8 is Region 7 -- we have a responsibility for
9 California, Nevada, Utah and Arizona. Now, in
10 each one of the regions we have staffing of
11 various disciplines. We have operating practices,
12 we have motive power and equipment, we have track,
13 we have signal and train control, and me of
14 course, hazardous materials. And then we have a
15 group of inspectors within the region that go out
16 and enforce hazardous materials regulations on the
17 railroads and on anyone who offers or transports
18 by rail, so we can reach out through our authority
19 out to refineries or anybody that offers a tank
20 car or other type of package by rail.

21 The subject I want to cover today is some
22 fast facts. Some of the stuff I'll breeze over
23 really quick, but according to the AAR, Annual
24 Report of Hazardous Materials Transported by Rail
25 for 2012, crude oil shipments have increased 443

1 percent since 2005; we all know that. The first
2 quarter of 2013 saw 166 percent increase in crude
3 oil shipment by rail over the first quarter of
4 2012. Growth is expected to continue for the
5 foreseeable future in the most frequently
6 transported hazardous materials 2012. So those
7 are some known statistics.

8 We've seen this slide before. This is the
9 shale deposits in North America. And we've seen
10 this slide before where we do not have -- there's
11 not a pipeline that reaches onto the west coast to
12 the refineries, so the best solution to this is
13 petroleum crude by rail.

14 Now, in 2011 we looked at a waybill
15 sample, this is one percent of the waybills, just
16 to see the routing associated with petroleum crude
17 by rail, and you can see the corridors as coming
18 up and down what we call the I-5 corridor.

19 There's some heavy movement within California and
20 coming across California through what we call the
21 Transcon Railroad, which is the BNSF. So that's
22 just a snapshot and it's pretty true today on the
23 routing of these materials coming into the west
24 coast or into Region 7.

25 Now, some of the loopholes that we were

1 looking at and tried to limit or remove the
2 loopholes, one of those was classified petroleum
3 crude by rail. Now, here are the challenges that
4 the rail transportation faces.

5 There's multiple truckloads from different
6 well sites being transloaded into a single car.
7 Now, transloading means it's coming by another
8 bulk package like a truck, it's going to a site
9 where there's rail cars and they load those trucks
10 into rail cars and it comes from various sites.

11 There's high levels of hydrogen sulfide.
12 There's severe corrosion to tank and service
13 equipment. Service equipment meaning valves and
14 fittings associated with the rail car. There's
15 impurities in the mix, wax, sludge, water,
16 etcetera. And we discovered there was a lack of
17 product testing and there was improper
18 classification of this material.

19 Not in the sense that you would think. I
20 mean, it's still a class 3 material, but when we
21 started getting into packing groups there was a
22 misclassification whether it's a packing group 1
23 or a packing group 2 or a packing group 3, so we
24 looked at that really closely. And because you
25 were loading tank cars out in the field into rail

1 cars, it was very hard to determine how much
2 material that was being put into a tank car so a
3 lot of overloads were occurring.

4 And then of course there's a shortage of
5 rail cars to meet the demand, all right. So then
6 we have that fine balance that we talk about, the
7 older legacy cars and the newer tank cars that are
8 being built and how do we balance that so that we
9 get a good transition of newer cars into the
10 fleet, so you've heard some information on that
11 already.

12 So here I just want to break out the
13 packing groups a little bit. This comes right out
14 of 49 CFR, Title 49, Code of Federal Regulations
15 Part 172.101 that breaks out the different packing
16 groups, packing group 1, 2 and 3. And then
17 there's some special provisions associated with
18 that, and then it actually gets into packaging
19 requirements in the far right-hand column. Now,
20 these special provisions I'll just briefly cover.

21 Residue and underground storage tanks
22 really doesn't apply to us here.

23 Marketing requirements, that's applicable
24 for hydrogen sulfide.

25 Then there's this little loophole here.

1 Those materials that are above 100 degrees
2 Fahrenheit with flatoid over 100 degrees but less
3 than 200, then this material can be reclassified
4 as a combustible liquid and get into a different
5 type of packaging under 173.241. And so what we
6 want to do is make sure we get this material into
7 the strongest package possible that's available
8 out there, right, or an authorized package.

9 242, those are the rail cars that are
10 authorized.

11 243, which is a packing group 1 material,
12 those are the packages that are authorized. You
13 can see DOT 103, 104s right on up to a 120. The
14 106s and 110s are what we call a multiple unit
15 tank car or 110 cylinders, yet we're not seeing
16 that stuff move in that, we're seeing it moved in
17 tank cars.

18 Okay. So here's the problem with 173.241.
19 Bulk packages for certain low hazardous materials,
20 solids and liquids can be packaged into a 211W
21 tank car, that's an AAR specification tank car.
22 Okay. there are certain things with the 211 that
23 doesn't quite meet the standard of a DOT
24 specification package, so we want to eliminate
25 that from the options and so we've come up with

1 some solutions for that and I'll explain what
2 those are.

3 But to further define what a packing group
4 1, 2 and 3 material is, is a packing group 1
5 material has an initial boiling point of less than
6 or equal to 95 degrees Fahrenheit. A packing
7 group 2 material is less than 73 degrees
8 Fahrenheit on a flashpoint and has a boiling point
9 greater than 95 degrees Fahrenheit. And then
10 packing group 3 materials are greater than 73
11 degrees Fahrenheit but less than or equal to 140
12 with a boiling point greater than 95 degrees
13 Fahrenheit.

14 So how can I explain that very simply?
15 Think of gasoline as a packing group 1 material.
16 Think of diesel fuel possibly on the border but
17 more leans towards a packing group 3 material.
18 Just to give you a general idea of what we're
19 talking about here. So we have concerns, and
20 these are our concerns.

21 We have train derailments. We've seen
22 that, they're all publicized and well-known.

23 We have securement issues with valves and
24 fittings.

25 Tying down a train more definitive,

1 defined a little bit further.

2 And train handling and emergency response
3 to those incidents where we have a release of
4 materials.

5 Also, proper material classification is a
6 concern, and selection of the appropriate
7 packaging for these materials when they're being
8 offered for transportation.

9 Now, I won't get into specifics, but here
10 are some of the things that's been publicized here
11 in the recent news. The derailments, the damage
12 caused, the thermal tears. This is an example of
13 a thermal tear. This is a bigger thermal tear,
14 rip.

15 But so after the Lac Magantic derailment,
16 NTSB recommendations to the FRA were this.

17 Require expanded hazardous materials route
18 planning for railroads to avoid populated areas
19 and other sensitive areas. Now, realize that this
20 is already a requirement for explosives, poison
21 inhalation hazardous materials and radioactive
22 materials, they're already using this database
23 already and this route planning. So now the NTSB
24 is recommending flammable liquids be included in
25 this planning.

1 Develop an audit program to ensure rail
2 carriers that carry petroleum products have
3 adequate response capabilities to address worst
4 case discharge of an entire quantity of product
5 carried on a train of petroleum crude.

6 And then audit shippers and rail carriers
7 to ensure that they are properly classifying
8 hazardous materials and transportation and that
9 they have adequate safety and security plans in
10 place.

11 Now, PHMSA also came out with an alert
12 advising that this material that we think about,
13 this petroleum crude, is not the black thick crude
14 that we normally would kind of associate with
15 petroleum crude. It's a lot thinner, it's a lot
16 more flammable than what you would think, so this
17 advisory came out in January of 2014.

18 Misclassification. PHMSA did some testing
19 and came out with a finding and some appropriate
20 proposed penalties associated with that.

21 As far as FRA, we came out with Emergency
22 Order 28. That's one of our enforcement tools
23 that we have in our tool bag and that established
24 six requirements to eliminate the immediate hazard
25 of death, personal injury or significant harm to

1 the environment, and related to the securement of
2 certain unattended equipment. We're talking about
3 trains. Lac Magantic, that was a runaway.

4 So we came out in answer to that we come
5 out with Emergency Order 28, and this really
6 applies, the applicable part of that is Appendix A
7 of EO 28. Five or more tank carloads of any one
8 or any combination of materials poisonous by
9 inhalation is defined by 49 CFR 171.8, and
10 including anhydrous ammonia and ammonia solutions.

11 Twenty rail carloads of intermobile
12 portable tanks, or now we're looking at
13 combination within the train to include class 3
14 flammable liquids or combustible liquids, okay.
15 Whereas that was not part of that before, it now
16 is under this emergency order.

17 Now, what this emergency order requires
18 the railroads to do is develop a security plan for
19 leaving unattended trains, develop a process for
20 securing trains outside of yards and terminals,
21 review and update existing procedures, and
22 implement operating rules requiring the discussion
23 of the securement of any train or vehicle. And
24 further, if you read that emergency order, it says
25 communicate with the dispatcher if you leave that

1 train tied down.

2 Inspection by a qualified employee of any
3 equipment that emergency responders have been on.
4 That was one of the questionable things with the
5 Lac Magantic derailment, runaway, was that there
6 was a locomotive fire and emergency responders
7 respond to that and there's a question about
8 securing that train, whether it was done properly
9 after the emergency was over.

10 All affected employees must receive notice
11 of EO 28. Now, we as the FRA group have been out
12 there, we've done that, we've visited the
13 railroads, we've ensured that they have complied
14 with Emergency Order 28, and they're doing a great
15 job of that.

16 September 2013 in response to the tank car
17 question about its structural integrity and its
18 survivability in a derailment came out with an
19 advance notice of proposed rulemaking in September
20 2013. I won't spend a whole lot of time on that.
21 Already someone previously has discussed what
22 those requirements are, but that advance notice
23 came out in September of 2013 under Petition 1577.

24 Okay, thank you.

25 Now, the railroads have voluntarily

1 initiated some things in addition to the
2 regulation. They're voluntarily doing increased
3 track inspections, they're adding distributive
4 power units to unit trains to provide additional
5 braking power. The use of rail traffic technology
6 to determine the safest and most effective routes.
7 Lower speeds within high threat urban areas to 40
8 miles an hour, and 50 miles an hour outside of
9 high threat urban areas. What did they do here?
10 Increased track side technology, every 40 miles is
11 the minimum. And increase ER training, and this
12 is what I really wanted to highlight on really
13 quick.

14 The railroads have agreed to train 1500
15 emergency responders to a new program that they're
16 developing at Pueblo Transportation Test Center to
17 fight or to respond to petroleum-related
18 incidents. So 1500 first responders by the end of
19 the year. And then develop an inventory of
20 emergency response resources for large amounts of
21 petroleum crude.

22 Now I'll just kind of summarize on this.
23 Emergency Order was issued that no matter -- we
24 talked about packing group 1s, 2s and 3s. The
25 emergency order basically says no matter what it

1 is, we want you, you have to treat it as a packing
2 group 1 and 2 material. You can classify it as a
3 packing group 3, but have to treat it as a packing
4 group 1 or 2 material to get it in a tougher
5 package.

6 And then this emergency order requires the
7 railroads, which have already been providing
8 emergency response or traffic commodity flow data
9 to emergency responders, but this requires to
10 notify the state SERCS of a million gallons or
11 more of petroleum crude that originates from the
12 Bakken, so there has to be that notification. It
13 includes routing, anticipated amounts, etcetera.
14 And that's actually in effect and they're doing it
15 right now and FRA is rolling out a process to
16 audit that procedure to make sure that's being
17 done.

18 And then we are encouraging industry,
19 those that load tank cars with petroleum crude, we
20 are encouraging them to use the newer equipped CPC
21 1232 tank car, the new tank cars that are being
22 manufactured, realizing that we want industry to
23 phase out the legacy tank cars as soon as they
24 possibly can.

25 Okay, next step. Implement NTSB

1 recommendations. FRA is currently doing that.
2 There's a notice of proposed rulemaking coming
3 out. And our national safety program plan is to
4 continue auditing for EO 28, inspect trains for
5 proper valve securement, which we currently do
6 with our inspectors, and then develop an audit
7 process for railroad emergency response plans.

8 Okay, Thank you.

9 COMMISSIONER SCOTT: Thank you very much
10 for that presentation.

11 Our next presentation is going to be from
12 Jack Whitley, who is on the HazMat Safety
13 Assistance Team from the U.S. Department of
14 Transportation's Pipeline and Hazardous Materials
15 Safety Administration.

16 Welcome Jack.

17 MR. WHITLEY: I do work for the Pipeline
18 and Hazardous Materials Safety Administration, and
19 that's made of two offices, the pipeline and the
20 hazmat. I work for the hazmat side of the house.
21 If you have pipeline questions, I'll be more than
22 happy to give you a name and phone number, but I
23 can't answer them.

24 The Pipeline and Hazardous Materials
25 Safety Administration hazmat side of the house,

1 our main function is to regulate hazardous
2 materials in transportation and commerce. We do
3 that by having operational rules, how you market,
4 label, placard it, all that type of stuff, and
5 also the packaging. So when we're talking about
6 rail cars and transportation of oil, we regulate
7 how the tankers themselves are built, okay, not
8 how the railroad moves the cars. That's the FRA's
9 job. So please understand there is a difference
10 in what we do.

11 This kind of breaks down what it is that
12 we do, what the HMR, the purpose of it is. The
13 main purpose of it is simply safety. The Pipeline
14 and Hazardous Materials Safety Administration, our
15 mission is the safety of people, property and the
16 environment, and this is how we do it.

17 Classifying hazardous materials, as Ernie
18 was talking about. With the crude oil, how do we
19 know what class of crude oil it is? Is it a
20 packing group 1, packing group 2, packing group 3?
21 You'll see more of that in a few minutes.

22 Contain it, put it in the proper package.
23 Again, that's what we're doing with the rail car
24 regulations.

25 Communicate. Make sure the emergency

1 responders know what it is that they're dealing
2 with, and we do that through placards and labels
3 and markings and shipping papers.

4 And make sure everybody understands the
5 rules so that they can comply with them.

6 Okay, this is what we want to get to, this
7 is what we want to talk about.

8 So the big question has been when is PHMSA
9 going to come out with the new rule? I don't have
10 an answer for you. I do have a statement that I
11 am going to read, and this is all I am allowed to
12 say about this.

13 And I quote, "This rule proposes new
14 operational requirements for certain trains
15 transporting a large volume of flammable
16 materials, improvements in tank car standards and
17 revision of the general requirements for offers to
18 ensure proper classification and characterization
19 of mined gases and liquids. These new
20 requirements are designed to lessen the frequency
21 and consequences of derailments involving ethanol,
22 crude oil and certain trains transporting a large
23 volume of flammable materials.

24 "The growing reliance on trains to
25 transport large volumes of flammable materials

1 poses a significant risk to life, property and the
2 environment. These significant risks have been
3 highlighted by the recent derailments of trains
4 carrying crude oil in Castleton, North Dakota;
5 Aliceville, Alabama; and the one in Quebec,
6 Canada.

7 "The proposed changes also address
8 National Transportation Safety Board
9 recommendations on accurate classification,
10 enhanced tank cars, rail routing oversight and
11 adequate response capabilities." End of quote.
12 So as far as the new rule goes, there's my
13 statement.

14 But let's talk about what we have been
15 doing.

16 As you can see from the slide, May 14th of
17 2010 we did issue a final rule and changed some of
18 the operational rules for rail cars. This one
19 specifically has to do with checking some valves
20 and the weight limits of those cars.

21 January 25th, FRA issued a notice that has
22 to deal with our final rule.

23 March 9th, PHMSA received a petition 1577,
24 and we've seen this several times today, from the
25 Association of American Railroads requesting

1 changes to tank car specifications, and that's
2 what we've been talking about and that's what this
3 new rule is concerning.

4 In 2011, the AAR got a taskforce together
5 to help go over the regulations, find out what the
6 best way to do this was.

7 In April through October we took a lot of
8 comments about the proposed rule. Three of the
9 petitions, 1587, 1595 and 1612, basically what
10 they ask for is hurry up and make the rule, so we
11 are working on that.

12 2013, PHMSA and FRA published the ANPRM,
13 Advanced Notice of Proposed Rulemaking.

14 December 2013, the comment period closed.
15 And as you can see, we got a couple of comments.

16 In April, we submitted the ANPRM to OMB,
17 the Office of Management and Budget, for review.
18 Now we're working with them to finish the final
19 rule.

20 The reason -- look, rail regulations have
21 been in place for, what, 40 years now, and they've
22 worked pretty well up until now, we haven't had
23 too many problems. We want to make sure that
24 whatever rule we write lasts for another 40 years.
25 Being hasty in creating a new rule would not be a

1 good idea for anybody. We don't want to have to
2 go back and redo it, we don't want to make a
3 mistake. So is it taking a lot of time? Yes, but
4 hopefully we will get this right the first time.

5 Some of the other things that we're going
6 to do, and I'll let you read these, there's just a
7 couple things that I want to highlight real quick
8 and then I'll get out of your hair.

9 PHMSA is working very closely with
10 industry, with civil agencies, state governments,
11 city governments, helping to get the emergency
12 responders trained in what to do in case of an
13 event. There is a lot of ongoing effort. You've
14 heard of some of the efforts in New Mexico, some
15 of the efforts the rail industry is making to get
16 fire fighters trained, and that is not the only
17 thing they are doing. They're really stepping
18 forward to help ensure that the fire fighters and
19 other emergency responders get the training they
20 need to deal with these types of incidents. PHMSA
21 is also assisting with this in a coordinated
22 effort to make sure everybody that needs the
23 training is getting it.

24 We've also launched Operation
25 Classification. As Ernie said, what hazards does

1 this oil actually present? We know it's a
2 flammable liquid. It's oil, right, so it's a
3 flammable liquid. Is it a packing group 1, is it
4 a packing group 2, is it a packing group 3? The
5 only way to determine that is through testing, so
6 PHMSA has gone out and we have taken samples and
7 we have sent them to labs for testing so we know
8 specifically what we are dealing with when it
9 comes to oil throughout the country. So we have
10 focused a lot of effort in North Dakota. That
11 effort is now shifting to a national effort to
12 make sure no matter what oil field the oil is
13 coming from, we know what it is that we're dealing
14 with. I don't have the test reports back yet,
15 we're still waiting on those. When we do, that
16 information will be published.

17 And that will be the end of my
18 presentation. Thank you.

19 COMMISSIONER SCOTT: Thank you. Thank you
20 very much, Jack.

21 Our next set of presentations is going to
22 be about the California state rules and
23 responsibilities for the crude by rail projects.
24 We have a series of speakers. I'm not sure if you
25 all want to come up to the podium or quite how

1 you'd like to do that.

2 But first we'll hear an overview of the
3 interagency working group on oil by rail safety
4 from Cliff Rechtschaffen, who's a senior advisor
5 to Governor Brown. The other panelists will be
6 Gina Solomon, the Deputy Secretary for Science and
7 Health from California's Environmental Protection
8 Agency; Paul King, PhD., Deputy Director of Rail
9 Safety Programs from the California Public
10 Utilities Commission; Tom Cullen, Administrator
11 from the Office of Spill Prevention and Response;
12 and Tom Campbell, Hazardous Materials Program
13 Chief from the Office of Emergency Services.

14 So welcome state panel and I'll turn it
15 over to Cliff.

16 MR. RECHTSCHAFFEN: There were two federal
17 people, we think we could at least have four state
18 people, right, we could really beat that.

19 Thank you very much. I want to especially
20 thank the railroad industry. I see some of you
21 are still here, I don't know if others have left.
22 And the oil industry for participating. And I
23 apologize having to dart in and out this morning.
24 We wanted to have a comprehensive multi-party view
25 at this forum and it's great that you are able to

1 participate and we look forward to working with
2 you together on these issues.

3 Of course, you've correctly pointed out
4 that 99.8 percent of rail trips don't result in an
5 accident. We're all concerned with the .2 or .3
6 percent, because then we all have to respond and
7 deal with those.

8 We formed an interagency working group in
9 January of this year with all of the state
10 agencies that have some kind of responsibility
11 dealing with oil by rail in various aspects, and
12 these list some of them. You're going to hear
13 from some of the key agencies in a moment. And
14 our thought was, as Gordon and others have
15 mentioned all through the morning, California is
16 on the cusp of dramatic changes in the sources of
17 our oil and increasing transportation. We wanted
18 to be ahead of the problem. We heard from other
19 states that they were behind the problem, that
20 they were being reactive. We wanted to be
21 proactive and deal with the risks as they are in a
22 sensible and thoughtful way.

23 You've seen statistics and you've heard
24 about the tragic accidents. Nationally there are
25 more accidents occurring, that's true and it's

1 inevitable with increased traffic. The same thing
2 is happening in California although at a much
3 lower level. We have much less traffic so far,
4 but similar trends are happening in California.

5 What we also realized -- and you're going
6 to hear a presentation from Dr. Solomon in a
7 minute -- we looked at the places where our crude
8 by rail is likely to be shipped and matched them
9 against population centers, areas of sensitive
10 resources, waterways, and also our emergency
11 response capabilities, and we found sources of
12 concern.

13 We found that there are lots of population
14 centers, potentially affected sensitive resources,
15 and we were short in our emergency response
16 resources. Assemblywoman Skinner talked about one
17 of the bills pending in the Legislature that we're
18 hoping to get through the Legislature to remedy
19 the problem.

20 We have up here the PUC, the Office of
21 Spill Prevention and Response and the Office of
22 Emergency Services. These are the main agencies
23 with regulatory authority over oil by rail in
24 California. The PUC, of course, implements and
25 enforces federal requirements, and OSPR and OES

1 deal with emergency preparation and response,
2 contingency planning and so forth. And those
3 areas are the main focus of our report.

4 We have a very handy dandy report that's
5 available free on the Office of Emergency Services
6 website. I don't know if it's in the program
7 materials or not. But what we found is a few
8 major themes and then we'll elaborate with the
9 different speakers.

10 The federal government's doing a lot.
11 Ernie and Jack talked about many of the
12 initiatives and I think the federal government
13 deserves a lot of credit. As they're learning
14 more they're responding with increasing alarm,
15 frankly, and stringency with their measures, so we
16 applaud that, but we found that they're not doing
17 quite enough and we want them to do more. We want
18 the industry to do more, and we want the state to
19 monitor more of what the railroads are doing. So
20 part of our recommendations is to increase
21 inspections and inspectors at the CPUC, and you
22 heard from Assemblywoman Skinner we were fortunate
23 enough to have the Legislature approve that in the
24 budget that was just adopted.

25 We also realized, taking a careful look,

1 that we wanted to have the best possible emergency
2 preparedness and response program, both at the
3 front end where we have training, contingency
4 preparation, and at the back end where we have
5 first responders coming on the scene with
6 equipment and emergency responders to quell the
7 immediate response, and then the Office of Spill
8 Prevention dealing with the long-term cleanup,
9 rehabilitation and restoration of resources.
10 That's why the Governor recommended expanding the
11 oil spill prevention program. You'll hear more
12 about that, and that also was approved by the
13 Legislature.

14 We want to provide further funding for
15 additional local emergency responders to remedy
16 the gap, especially in rural areas where 40
17 percent of our fire fighters are volunteer, so we
18 have a real resource gap that we need to deal
19 with.

20 We also heard, talking to people, and we
21 also saw in our research a real need for more
22 information for emergency responders, and quite
23 frankly for the public, so a lot of our
24 recommendations go to having emergency responders
25 get from the federal government, from the industry

1 voluntarily and from others as much information as
2 possible so that they can be best equipped to
3 handle responses.

4 There's a very important right to know
5 element of this as well, and our taskforce
6 prepared a map that you'll see from Dr. Solomon
7 that depicts what we know about routes and
8 potential risks. And that's going to be posted on
9 our agency websites as well.

10 And the other series of recommendations
11 about reviewing state emergency response plans and
12 requesting additional information and additional
13 action from the federal government.

14 So that's it in a nutshell. I'll turn it
15 over to the specific agencies now who can go
16 through in more detail what our recommendations
17 are. I think first Gina's going to show the oil
18 by rail risk map to set the tone a little bit
19 more.

20 DR. SOLOMON: Thanks, Cliff.

21 Many of you may have seen the map that is
22 in the back of the report, the Governor's report,
23 and so you may even have discovered that if you
24 open that map and zoom a bit, you can get some
25 more information and really look at some of the

1 local areas. But we decided that that wasn't
2 quite enough. What we're hoping to do with this
3 new interactive map that I'm going to give you a
4 sneak preview of right now is give people a tool
5 to look at local vulnerabilities and local
6 response capabilities and help target our actions
7 at the state and local level.

8 What I'm going to just first show is that
9 this is an interactive RGIS map that has layers
10 that include the rail lines, the main lines and
11 some of the short lines, the locations of the
12 major refineries, locations of existing and
13 proposed oil terminals.

14 The areas that are highlighted in bright
15 red that you can see there are rail high hazard
16 areas that are historically disproportionately
17 responsible for derailments.

18 The locations of hazmat teams across the
19 state is an important aspect of our response
20 capabilities.

21 We looked at hospitals and schools.
22 You'll see that those only appear when you zoom in
23 quite a bit, because otherwise they overwhelm the
24 map.

25 Geologic faults.

1 Pipelines, because we realized that many
2 of the pipelines run along rail right-of-ways and
3 so there's a possibility of disruption of a
4 pipeline, for example, in a derailment.

5 Rail stream intersections, sensitive
6 species and habitat, highway corridors and
7 population.

8 So we considered these to represent the
9 major vulnerabilities, including the
10 vulnerabilities of the rail system itself,
11 vulnerabilities of the population living along the
12 rail lines and pipelines, and then the
13 vulnerabilities of the ecosystems, habitats and
14 waterways.

15 So it seems appropriate to start by
16 zooming in a little bit on the Dunsmuir area, and
17 you can see up here this red high hazard area is
18 the Dunsmuir zone, and then this other high hazard
19 area here is along the Feather River, and there's
20 been some talk about both of those zones.

21 You can also see from this map the
22 locations of the nearest hazmat teams. These are,
23 as you can see from the key, type one or type two
24 teams, so these are the elite hazmat teams. But
25 Redding is about 55 miles from Dunsmuir, so it

1 would take a little while for this team to
2 actually get up here. There is no closer response
3 team.

4 So as you zoom in further you start to
5 pick up some of the other issues, you know, the
6 nearest hospitals and some of the -- it's going to
7 come in in just a moment -- the stream crossings
8 and habitat. Maybe I have to zoom in just a
9 little bit more. There it starts to come up. And
10 here you even can see the locations of the nearest
11 schools to that high hazard zone.

12 Somehow the habitat is not showing up
13 here. Let me turn it on. Ah, yes. Because in
14 this area you have a lot marked in green here of
15 sensitive habitat and species.

16 Any rail transit coming from either the
17 north or from the east coming through this Feather
18 River area of over Donner Summit where there is
19 also a high hazard area, as you can see here, does
20 go through the Sacramento area on its way down
21 either into the Central Valley or into the Bay
22 Area. As you can see here, there's a lot of both
23 rail and then this sort of purplish color, grayish
24 purple is the pipelines. And then just since many
25 of you will be interested in the Bay Area, a lot

1 of sensitive habitat obviously along the bay and
2 delta.

3 And you can zoom right into the Martinez
4 area. This is the location of a proposed terminal
5 at Valera that was mentioned earlier today, and
6 the proposed WesPac site is also marked. And the
7 existing terminal in Richmond is also noted, as
8 are the refineries in that area.

9 And you could see the density of both rail
10 and sensitive receptors. All the little greens
11 are schools on this view, and some of these areas
12 are quite well populated, as you obviously know.
13 So the population layer appears as you get closer,
14 so that's the shades of brown, the darker brown
15 obviously being the higher populated areas.

16 Just running down to a couple other
17 issues. All right, the purple lines are
18 earthquake faults, so you start encountering those
19 more as you come down into the Bay Area and south.

20 And I just wanted to show the Bakersfield
21 and San Luis Obispo areas, because those have some
22 areas of interest as well.

23 So as we've already heard, Tehachapi is a
24 major route into the state. Unfortunately, every
25 route into the state goes through some steep

1 mountainous areas, and so that is largely the
2 reason for these red high hazard areas.

3 I also want to point out that the red high
4 hazard areas represent a little bit less than 20
5 percent of the historic derailment zones, so don't
6 just focus on the red areas because if you do you
7 will be missing the many, many places where
8 accidents can occur. And obviously as we've heard
9 from the railroads, there's a lot of attention to
10 these high hazard areas, including improved track
11 and the cement ties being put in place, so we can
12 be hopeful that those will be less of a concern
13 going into the future, but we highlighted them now
14 for people to be aware of but we're hoping that
15 that will improve.

16 So in this Bakersfield area we've already
17 heard about oil by rail coming in, these unit
18 trains coming in through Tehachapi down through
19 the center of Bakersfield and then to this Plains
20 All American facility where it is then being
21 transferred into pipelines that will take it
22 either to northern California or southern
23 California. This facility is under construction,
24 so it's this short line and this route is likely
25 to be reasonably important.

1 Moving over toward the coast, there's a
2 proposed facility here in San Luis Obispo and a
3 rail high hazard area because of this very twisty
4 approach into the town, which you could see right
5 here, it's a very convoluted zone. There are
6 obviously, again, quite a lot of hazards in this
7 area. You can see the earthquake faults crossing
8 the rail lines. You can see the sensitive species
9 and habitat. You can see hospitals right along
10 the rail line. Quite a number of schools as you
11 get down into the town, and then quite a
12 reasonable population in this area as well.

13 And then just before I finish I want to
14 show you one more zone that is of some interest,
15 which is in southern California. The map has to
16 load as I move it around. I'll pull back out a
17 little. Which is in the Riverside area, and what
18 we see in that zone again are historically high
19 hazard stretches of rail and very heavily
20 populated areas with many, many sensitive
21 receptors.

22 This map allows you to actually zoom in
23 pretty far if you're interested and really get a
24 look at actual street intersections and locations
25 and the locations of sensitive receptors, so it's

1 helpful in that regard.

2 So this will give you a feel of the tool
3 that is currently at our disposal and that will be
4 publicly available for people to look at and for
5 local governments to use as they plan their
6 emergency response and make sure that they have
7 the capabilities to respond to the risks in their
8 areas.

9 Thank you.

10 COMMISSIONER SCOTT: Thank you. Gina,
11 before you turn it over to the next speaker, could
12 you tell us what qualifies as a high hazard area?
13 You mentioned some things like lots of twists and
14 turns or elevation, but what other considerations
15 went into high hazard area?

16 DR. SOLOMON: I actually should let the
17 next speaker answer that because he's the expert
18 on it, but just quickly, this is a total of about
19 2 percent of the track in California responsible
20 for a total of about 18 or so percent of the
21 derailments historically, which makes those
22 segments of track disproportionately of concern.
23 The other incidents that have occurred, you know,
24 are sort of scattered all around the state, and so
25 it's a little less predictable where those might

1 occur.

2 DR. KING: Just to add to that, there were
3 two methods used to identify those sites, so I'll
4 get into it a little more.

5 Basically, one was based on accident
6 frequency where there are clusters of derailments
7 that happened here that couldn't have happened
8 randomly, there was some characteristic of the
9 site. Corroborating that was the second method,
10 and that was, were there extra operating
11 restrictions put by the railroad to account for
12 the severity of grade and curvature basically. So
13 it was those two methods.

14 COMMISSIONER SCOTT: Thank you.

15 DR. KING: So just to back up to 1911, the
16 Public Utilities Commission was originally the
17 California Railroad Commission. It was founded
18 during the reform era of Hiram Johnson. 1946, to
19 recognize the utilities it was renamed the Public
20 Utilities Commission, and when I first came to the
21 Commission in 1981, the first FRA trainee was
22 finishing up his training as a track inspector, so
23 our federal/state participation program with the
24 FRA started at that time.

25 Basically, our mission could be said two

1 ways. It's accident prevention. Another way is
2 risk management. We do that by compliance with
3 federal and state regulations, but also looking
4 for things that aren't regulated and addressing
5 those.

6 Again as I mentioned, we share
7 jurisdiction for inspection with the federal
8 regulations. We have, and you'll see here we have
9 52 staff positions; 38 of those are inspectors
10 with another 7 coming in the new budget.

11 And Ernie named the five disciplines.
12 Track inspections, we do track inspections. We
13 inspect locomotives and rail cars. We observe
14 operating practices for compliance and inspect
15 signal and train control. There's a lot going on
16 there right now with the implementation of the
17 collision avoidance system called PTC, or Positive
18 Train Control. And then we do hazardous materials
19 inspections to ensure that all the hazmat
20 regulations are followed.

21 Now, the states can adopt regulations over
22 the railroads, but under federal law since 1970
23 they can only do that where the FRA has not
24 covered the subject matter. That's not entirely
25 clear where you can and cannot do that, because

1 it's the courts that end up determining that, and
2 the PUC has been successful at times and not
3 successful at other times.

4 There's an exception to that. If the FRA
5 has covered the subject matter, the states, if
6 there's an essentially local safety hazard, can
7 adopt a regulation. PUC was not successful in
8 doing that and the Ninth Circuit has made that
9 very difficult and has defined it as, if you can
10 encompass it with a National Uniform regulation,
11 then it's not an essentially local safety hazard.

12 So just backing up to 1991. Many of you
13 are probably familiar with the derailment in
14 Dunsmuir that the tank car of herbicide went in
15 the river and poisoned it for some tens of miles
16 and killed most everything in the river. At that
17 time the state Legislature required the PUC to do
18 a statewide risk assessment looking for other
19 areas that might have similar hazards. We did,
20 and we identified, like I mentioned, by two
21 different methods those sites. We adopted
22 regulations and then ensued in having several
23 years of litigation on that, I think from about
24 '97 to 2004. And the local safety hazard
25 exemption for increased track standards, stricter

1 track standards at the Cantara Loop in Dunsmuir
2 were denied. However, we did work out with the
3 railroads a settlement to have an agreed and
4 enforceable standard for train makeup.

5 Train makeup is how you place cars in a
6 train. If you put light cars on a head end and
7 heavy behind that, you can pull the light car off
8 the track going uphill. That's what happened in
9 the 1991 accident. The settlement requires a
10 process that the railroads use basically a
11 scientific process that allows the PUC an
12 opportunity to review that and allows the PUC to
13 enforce the ensuing rules.

14 So about this time last year our program
15 manager for the Rail Safety Operations Branch, the
16 one I mentioned, the 52 folks, initiated what he
17 called a crude oil recon team basically to look at
18 the areas that were being developed to ship the
19 oil to get a jump ahead to make sure that
20 compliance was going to be followed, that the
21 infrastructure was going to be sound. And I do
22 want to give an example of how things are being
23 rebuilt and give credit where credit is due. We
24 went out and looked at this, just a little
25 informational tour for me.

1 The rail that was in the ground was 1897
2 rail. It weighed 75 pounds per yard. Right next
3 to it is a rail that was getting put in, 2013
4 rail, 136 pounds, the new standard. So that's
5 obviously very significant. And the ties were
6 getting renewed as well.

7 So we were asked to join the working
8 group, the Governor's Office Interagency Rail
9 Safety Working Group, and brainstorm about what
10 could the state do -- given there are limitations
11 on promulgating regulations, as I've mentioned --
12 what could the state do to address the risk? What
13 areas could we add value to? So we came up with
14 12 different things, and I'll just run through
15 them quickly.

16 First one is to become more engaged with
17 the rulemaking on stronger tank cars and to urge
18 that to be expedited and to be finalized. You've
19 heard reasons why that's important both for the
20 industry and the rail supply institute, besides
21 just public safety.

22 We also asked that the FRA identify any
23 area where crude oil trains would be run but there
24 would not be positive train control. Right now
25 positive train control is required, the collision

1 avoidance system is required where you run
2 poisonous inhalation hazard tank cars and where
3 you have possible conflict between passenger
4 trains and freight trains. That's what initiated
5 this, the Chatsworth accident of 2008. You may
6 recall the head-on collision with many fatalities.

7 Another one here is request that the FRA
8 consider requiring electronically controlled
9 pneumatic brake technology. Right now train
10 brakes are initiated by a change in air pressure
11 in a train line that runs from the head of the
12 train to the rear of the train. The brake
13 propagation depends on how fast that air pressure
14 change travels through the train line, and if you
15 have a two-mile-long train it takes a long time.
16 Electronically controlled does it at speed of
17 light, basically. Electrically initiated, it has
18 a number of advantages. I won't go into detail,
19 but can stop trains more quickly. You have much
20 greater control over the brakes and it can
21 provide, even in a derailment it can provide for
22 more instantaneous brake application.

23 We also have some ambiguous reporting
24 requirements for hazardous material releases.
25 That's that the PUC will need to do something

1 internally on that, open a rulemaking.

2 Normalize data. Right now we get accident
3 data, anybody can go online to the FRA website and
4 get data for California accidents, but what you
5 don't have is you don't have data that tells you
6 what the rate of accidents is, how it compares
7 nationally, how it compares to other states and
8 how it compares with previous years, like
9 locomotive miles, employee hours, those kinds of
10 things that are used to normalize data to get
11 trends and rates.

12 And of course we will be, with all our
13 inspectors we will be monitoring and there will be
14 public reports, the results of our inspections,
15 our public information on all the inspection
16 requirements for crude rail shipments.

17 And with our inspectors we plan on
18 conducting at least one additional inspection of
19 the crude oil routes each year. Right now PU
20 Code, Public Utilities Code, requires the PUC to
21 look at every mile every year. We're going to at
22 least do the oil routes one more time, effectively
23 doubling our oversight. Granted, the railroads
24 inspect these routes, but we have a role of
25 oversight of the inspections.

1 Also the next one, the railroads have
2 volunteered to add end-of-train devices which add
3 a second location for initiating an emergency
4 brake application. You can do on the head end at
5 the locomotive that travels all the way through
6 the system. With the end-of-train device, you do
7 it on the head and the emergency application
8 automatically to the rear end of the train too so
9 you double the speed of that application.
10 Distributed power does the same thing and can stop
11 a train faster. We want to see where that might
12 not be applied, where it already is. That
13 actually is probably already required on all the
14 oil train routes.

15 And we want to be involved in knowing what
16 the route analysis is, what those factors are, not
17 only for information that the state should have
18 available, but also just even to have our staff
19 engaged so we can be better educated about these
20 route analyses and be more involved.

21 And complete a survey of speed limits.
22 The railroads voluntarily have stated they'll drop
23 the train speeds in high threat urban areas from
24 50 to 40. We want to examine that, do a survey of
25 that and see if there's anything else should be

1 considered and go to the FRA for that.

2 And also, of course, we can already, and I
3 haven't talked recently with our program manager
4 about what the history is here, but we do look at
5 train speeds, we do test for train speeds. That's
6 the first most important thing we can do on these
7 voluntary speed limits is to see if they're being
8 complied with, to provide the public with the
9 confidence that somebody independent is looking at
10 that. We do that, of course, with the Federal
11 Railroad Administration.

12 And the last thing is we want to get an
13 inventory. You saw one slide earlier about all
14 kinds of automated inspection ways that are
15 alongside the track that inspect components of the
16 train. I used to sit on the caboose and look
17 ahead at the train. This technology actually
18 provides a very sophisticated survey of the train
19 as it rolls by, and so we want to get a handle on
20 that.

21 And finally, I am sitting in the seat for
22 the Rail Safety Advisory Committee for the FRA and
23 we're going through new regulations that are meant
24 to be crafted in a consensus. Ideally, if it's a
25 consensus you can adopt the regulation a lot

1 faster than if you have to go through the long
2 process of an NPRM and evidence and so forth.

3 Right now the current tasks, finished
4 these first three, hazmat securement. The train
5 at Lac Magantic was not secured. And this
6 establishes there was consensus on a permanent
7 regulation for train securement.

8 Minimum crew size. There was no agreement
9 there and recommendations to PHMSA, I believe,
10 have gone forward.

11 And there are some other things that are
12 of course in the pipeline too, but I think I've
13 run out of time.

14 MR. CULLEN: Well, good afternoon
15 everyone. My name's Tom Cullen. I'm the
16 Administrator for the Office of Spill Prevention
17 and Response -- I'll call it OSPR from this point
18 forward -- and we were created back in 1991 as a
19 result of a piece of legislation called the
20 Lempert-Keene-Seastrand Oil Pollution Act of 1990,
21 and it closely paralleled what we call OPA 90, the
22 Oil Pollution Act of 1990 on the federal side, and
23 that was, of course, in response to two major
24 events that happened. The Exxon Valdez that we're
25 familiar with, but also the American Trader spill

1 down in Huntington Beach. And we are established
2 within the Department of Fish and Wildlife now,
3 formerly Fish and Game, which is in the National
4 Resources Agency, so we are trustees for the
5 natural resources of the state, and in our world
6 that would be particular to water, wildlife and
7 habitat that could be affected in a spill.

8 So for the first 23 years of OSPR's
9 existence we're primarily a marine, you could also
10 say coastal, jurisdiction. We collected a fee of,
11 right now it's currently 6-1/2 cents per barrel.
12 A barrel is 42 gallons of oil, so if you take \$105
13 and 6-1/2 cents of that would go to our program,
14 but being a fee it restricts our jurisdiction to
15 the activities associated where it's collected,
16 and we collect that fee at marine terminals and so
17 all of our activities have been traditionally
18 coastal.

19 However, I, as administrator, and my
20 staff, we are also tasked with being the state on-
21 scene coordinator, the participant, if there were
22 an oil spill to any state water, and so we have a
23 little bit of a problem. We're not resourced on
24 the interior of the state and we're coastal. Of
25 course, trains are mainly coming into the state

1 from the interior.

2 So basically the mission that was defined
3 in the 1991 act called for us to strive for best
4 achievable protection. And some of the words you
5 don't see up there, we try to do that through
6 assuring best achievable technology, and
7 technology is always changing. We see with
8 emergence of better bandwidth and other tools,
9 what we saw with the RGIS that Gina had up there.

10 And oil is a funny product. Anywhere it's
11 transported or contained, it wants to get out, it
12 wants to escape, and we've seen that. Cal OES
13 gets reports, and that's one of the mandatory
14 things; any of you from industry know you have
15 three main people you have to call if there's any
16 type of spill of any size. And so Cal OES then
17 gives the reports to us and there's about 8,000
18 reports a year of oil spilled in the state. Of
19 that 8,000 about a third or so could directly
20 affect water. And you saw on some of the earlier
21 maps there's about 7,000 rail crossings of water.
22 That doesn't take into account where it runs
23 parallel. And there's about 5,000 crossings of
24 pipeline over water.

25 So Cliff mentioned earlier, and it was

1 about this time last year that we first heard, it
2 was about the time that BP was selling off its
3 state equities to Valero, and during this very
4 subtle conversation about the transfer of
5 contingency plans to the new Valero folks we heard
6 about the crude by rail and we were saying, what?
7 There's no crude oil coming into California by
8 rail. And it was like, uh-oh, and we started
9 looking deeper into it.

10 And Thanksgiving came around and we were
11 sitting in front of the Department of Financing,
12 hey folks, this is serious, this is going to be
13 ramping up fairly quickly from the numbers we're
14 looking at. It's of particular concern to us
15 because, as I described, you know, we didn't have
16 that inward reach to cover in the state. Our
17 revenues, we could see, were going to probably go
18 down on that per barrel fee we're collecting, yet
19 we have a fixed capability in the about 250 folks
20 that are working there that are still going to
21 need to respond on the maritime side, or prepare
22 for responses on the maritime side, but our left
23 flank is sort of exposed.

24 And so that's how we kind of got into the
25 Governor's budget, and we're very grateful that as

1 of last week the Legislature passed it fairly
2 untouched from what we originally proposed and the
3 Governor signed it.

4 And it was a very, very simple proposal.
5 We basically said anywhere that oil moves, that
6 tricky stuff that wants to escape containment,
7 anywhere it moves in the state or is stored in the
8 state in any volume should contribute to the fees,
9 and we didn't raise the fee, we just simply
10 extended it. So if you have 100 million barrels
11 coming in by sea it will pay 6-1/2 cents at the
12 refinery. If it comes in by rail, 100 here, 50
13 here, it's all the same, it's perfect, it
14 balances. And we think that this is going to
15 provide the best overall protection and the most
16 cost effective solution for the state.

17 So as part of this proposal we're going to
18 bring on 38 new positions on top of the 250 that
19 we already have. Now, those 38 won't be just
20 dedicated to inland with the 250 on the marine
21 side; they're all now going to have the authority
22 and responsibility for covering the whole state as
23 of the start of the new fiscal year next week.

24 Another big success in this is that it
25 makes available now something called the Oil Spill

1 Response Fund. This was a \$55 million fund that
2 was initially filled up when OSPR was created
3 through a 25-cent-per-barrel fee at the
4 refineries. It has never had to be turned back on
5 again, it was filled and it's there, but it was
6 restricted to kind of fronting the response on the
7 marine side. Now it's going to be available for
8 any type of spill of oil that could affect water
9 or habitat in the state.

10 There's something called the Oiled
11 Wildlife Care Network. That is a very important
12 entity that exists in California. It's a world
13 class network of about 31 wildlife centers,
14 managed by UC Davis. It's about a \$2 million-a-
15 year operation. And the industry plan holders are
16 required to talk in their plans about how they're
17 going to handle any wildlife that could be
18 affected by oil.

19 That program was funded by interest on
20 that response fund I just described to you, and as
21 you can imagine with interest rates on public
22 paper below one percent, it wasn't meeting that \$2
23 million-a-year need. Now with the new Governor's
24 budget we're going to protect that program. We're
25 going to increase it very slightly to now look at

1 wildlife centers on the interior of the state that
2 could take care of species that could be affected,
3 you know, small mammals and so forth, and that's
4 going to be preserved so that industry's
5 contingency plans will be still valid.

6 One other major change in our response
7 posture. We used to be restricted from responding
8 to any spill less than a barrel, less than that
9 42-gallon limit. And if you think of if you have
10 five cups of oil, that could create a sheen on
11 water greater than an acre, so you can imagine
12 what 42 gallons could create. The Coast Guard
13 where I came from in my previous life, we would
14 respond to any visible sheen, and so now with the
15 removal of that 42-gallon limit we can go out and
16 respond without having to worry is it a barrel or
17 is it not. We're going to go and make sure that
18 proper efforts are being taken.

19 These are some of the main mission areas
20 that OSPR has. Right in our name, we're the
21 Office of Spill Prevention and Response.
22 Preparedness and restoration and remediation would
23 probably be the two other biggest things that we
24 do.

25 These are some of the elements that make

1 up our historical marine program that will cascade
2 nicely into the inland. You've heard a lot of
3 folks talking today from both the federal and
4 state side on prevention activities. We're not
5 looking within our office to duplicate or overlap.
6 We're going to have a very limited role in
7 preventive activities with respect to rail or
8 pipeline.

9 On the marine side, yes, we still have
10 OSPR inspectors in concert with Coast Guard and
11 State Lands folks that will go and visit ships or
12 marine facilities. Any time there's a major
13 transfer of oil at a ship at anchorage, like many
14 of you here in the San Francisco area may remember
15 the Dubai Star in 2008, a year after the Cusco
16 Bussan, that had about a 500-gallon spill while it
17 was transferring fuel over the gunnel. So we'll
18 still have a preventative side on the marine
19 jurisdiction, but others with the Public Utility
20 Commission and the State Fire Marshall will be
21 looking more at the pipeline and rail.

22 Preparedness side, we're going to be
23 looking for contingency plans that describe some
24 of the things that I mentioned earlier with
25 respect to wildlife with sensitive site

1 strategies. A performance standard of how quickly
2 you can get, you know, response personnel and
3 equipment to the scene. The certificates of
4 financial responsibility. And a very important
5 thing is going to be development of plans. You
6 saw some of the areas in red that Dr. Solomon
7 showed, the more risk prone areas. We're going to
8 have to develop these area contingency plans or
9 geographic response plans to then do drills and
10 exercises in those areas.

11 And then the response side, I'm going to
12 talk very quickly here since I know I'm running
13 short. Again, we are the state on-scene
14 coordinator that participates in the unified
15 command as described in the national response
16 framework, so you have the federal on-scene
17 coordinator, the state side, you'll have a local
18 government rep and of course the responsible
19 party. And then we'll be participating in natural
20 resource damage assessment to try to make sure
21 that we can restore the valuable resources back to
22 their original condition.

23 And coordination of state agencies is so
24 critical. We enjoy a fantastic relationship on
25 the marine side across all levels of governance,

1 but also into the non-governmental environmental
2 groups and with industry. We expect it's going to
3 be the same on the inland program as we go
4 statewide.

5 One of the key interagency relationships
6 that's not mentioned up here would be the
7 Department of Defense, particularly Corps of
8 Engineers. One of the big threats that I'm
9 looking at or particularly concerned with are the
10 many, many thousands of abandoned and derelict
11 vessels that are throughout the state waters, and
12 Corps of Engineers will be able to play a big
13 part, as will Coast Guard, EPA, Cal Recycle.

14 So we have our work cut out for us the
15 beginning of July and we're very grateful for all
16 the support and interest that we've gotten from
17 many of you in this room. Thank you.

18 MR. CAMPBELL: Good afternoon. How's
19 everybody doing today? Well, since I'm the last
20 speaker for the state, I guess I'll see if I can
21 bring this train to the station. Sorry.

22 MALE VOICE: That's good. That's good.
23 Keep going.

24 MR. CAMPBELL: All right. I work for the
25 California Governor's Office of Emergency Services

1 in the Fire Rescue Branch, I'm the Deputy Chief of
2 the HazMat Division. Do I still have time left or
3 was that ten minutes?

4 A little bit about what OES does. OES --
5 soon as I get my notes -- the California
6 Governor's Office of Emergency Services exists to
7 enhance safety and preparedness in California.
8 Throughout strong leadership, collaboration and
9 meaningful partnerships, our mission is founded in
10 public service. Our goal is to protect lives and
11 property by effectively preparing for, preventing,
12 responding to and recovering from all threats,
13 crime, hazards and emergencies. Our mission is
14 very simply put. We protect lives and property,
15 build capabilities and support our communities for
16 a resilient California.

17 So how does OES fit into the Governor's
18 Taskforce for Rail Safety? We sit on the panel
19 and we provide input from the first responder
20 aspect and the planning stages and preparedness.
21 And we look at all angles, we play the 'what if'
22 game. We're out there looking at where the gaps
23 are and what do we need to prepare California and
24 our first responders so they can do the mission
25 that they've been tasked with. We do this by

1 coordination. We do this by talking to various
2 agencies, other state agencies, and partnership
3 also with private industry, so we work across a
4 broad range of avenues to try and do this.

5 One of the things that we have is also the
6 warning center. Where is it? I lost a slide
7 here. So what we do is we do this through warning
8 center, okay, that was already mentioned. The
9 warning center is the California State Center is
10 responsible for informing communications, alerting
11 and notifying executive leadership of any natural
12 or human caused emergencies. The California State
13 Warning Center is staffed 24 hours a day, 7 days a
14 week.

15 The mission of the California State
16 Warning Center is to be the central information
17 hub for statewide emergency communications and
18 notifications. The Warning Center is staffed with
19 emergency notification controllers, senior
20 emergency controllers and senior communication
21 coordinators. Services are highly reliable and
22 accurate one-stop resource for emergency
23 management, law enforcement and key decision
24 making personnel throughout the state. So that's
25 what we do in a nutshell. We provide, hopefully,

1 a resilient California and we coordinate through
2 all agencies.

3 Now, one thing that we did is we did a
4 hazmat team gap analysis, and what we did with
5 this is we took a map of certified hazmat teams
6 and we overlaid the projected routes of oil coming
7 into the state of California, and we noticed that
8 we have a couple areas that are not well protected
9 with our hazmat teams.

10 Now, a certified hazmat team is a team
11 that has voluntarily come to the state of
12 California and asked to be evaluated on their
13 resources, their equipment, their training and
14 their overall capabilities, and this is done by
15 established state levels and requirements.

16 So a type one team would be like the SWAT
17 of the hazmat teams, they can do everything. They
18 can go into an unknown type of environment with
19 their suits. They can do weapons of mass
20 destruction detection. They can do all this sort
21 of -- they have the high level detection
22 equipment. So a type two team would be a step
23 down, they can't do the WMD stuff. And then a
24 type three is very limited, they don't have the
25 capability of going into an unknown type

1 environment.

2 So we looked at these gaps and we realized
3 that there were definite issues, and one of our
4 main concerns was up in through the Plumas area.
5 As was mentioned earlier, Redding's about the
6 closest one out there, and to get a hazmat team up
7 there in case we have one of these rail cars
8 decide it wants to skip the track, how are we
9 going to get a hazmat team up there? Because the
10 quicker we get resources on scene, the better we
11 can limit the damage to the environment up there.
12 And I've been up into Plumas, it's very pretty
13 country up there, some of our more pristine parts
14 of the state.

15 We've also looked at the gap analysis as
16 far as financial capabilities. These volunteer
17 fire departments are very limited in their
18 financial stability. Plumas has tried to field a
19 hazmat team; couldn't do it. Can't maintain the
20 funding. So those are things that we have to look
21 at as far as our gaps. Over the last several
22 years fire departments across the state of
23 California have taken financial hits to their
24 budgets, and it's very difficult to maintain a
25 hazmat team, because it's quite fiscally

1 intensive, you might say.

2 So, as I mentioned, we coordinate with
3 other areas, but we also provide emergency expert
4 personnel for the state operations center, for
5 regional operations centers and the joint field
6 offices. We provide on-scene support at incidents
7 if we have to, subject matter experts. Several
8 members of my team have been out on these teams
9 and on site providing information. And they are
10 very good at what they do, by the way.

11 So we can -- part of our position at OES
12 is we have the chair of the State Emergency
13 Response Commission, and the Emergency Response
14 Commission is also known as the Chemical Emergency
15 Planning Response Commission, or CPERC, and
16 oversees implementation of EPCA in California
17 through the following responsibilities.

18 By establishing emergency planning
19 districts, the same as the California mutual aid
20 regions. Okay, these are six regions that are
21 highlighted in that map. So right now we're
22 sitting in Region 4. We're kind of on the border
23 of 2 and 4 really.

24 Appointing six LEPCs for each one of those
25 regions, Local Emergency Planning Commissions.

1 Establishing procedures for receiving and
2 processing requests from the public for hazardous
3 materials information as administered by Cal OES
4 and the certified unified public agencies, or
5 CUPAs.

6 And we receive disclosure information from
7 facilities in handling hazardous materials as they
8 are subject to EPCA requirements as administered
9 by Cal OES and CUPAs.

10 Some oil-related tract. Our spill warning
11 center receives all spill notifications and tracks
12 those. I get notified on a few of those myself.
13 Which is one thing I kind of like about this room.
14 I noticed that I don't have any cell service on my
15 phone right now so it's kind of nice I'm not
16 getting pinged by a lot of things.

17 Collects information from railroads, sends
18 it to the CUPAs. This would be the emergency
19 order from DOT, and for other agencies such as
20 OSPR, the State Fire Marshall, the PUC, Cal EPA,
21 and the list goes on. Just like the federal
22 government, there's a lot of acronyms out there.
23 The state loves their acronyms, I guess.

24 So some additional data that we need as an
25 agency that would help streamline things is we're

1 looking at timely routing and consistent
2 information. We are getting that information, but
3 we feel it could be a little more timely.

4 24/7 contact information. Again, we're
5 getting that from the railroads.

6 And interagency training with the
7 railroads. It's kind of spotty, you might say,
8 throughout the state of California. Some fire
9 agencies work very well with their local railroads
10 and some we could probably enhance that
11 cooperation some. So it's reaching out to our
12 industry partners and developing that relationship
13 is what we work for, and that is part of our
14 mission at Cal OES.

15 So we also have some gaps in some
16 regulatory authority here at Cal OES, but we like
17 to look at things as more of an all hazards
18 approach. We don't want to get focused in on one
19 particular aspect because there's a lot of things
20 out there that we have to deal with, and hazmat
21 and rail is just a small part of what we do at Cal
22 OES.

23 If anybody remembers back to some of the
24 fires last year, the Rim Fire, American Fire. We
25 were involved with all that for mutual aid

1 responses.

2 Some recent developments. The only one
3 I'll speak of is 506 because the assemblywoman
4 stole my thunder earlier. Thank you very much,
5 appreciate that. That's okay.

6 So 506 is one thing that we're looking at
7 right now, and it's a bill that has been
8 introduced by Senators Hill and Wolk and it's a
9 railroad tank car hazardous material safety fund.
10 Right now the language is under development, so I
11 haven't gotten a recent update and, like I said,
12 since I'm not receiving cell phone information,
13 that's good information.

14 Right now we're working on a regional area
15 plan assessment project to update our six regional
16 response plans, and that is to be completed by
17 September of this year.

18 And then we will continue working with the
19 interagency safety working group so we can provide
20 our input and together the state, with all the
21 agencies working on it, will provide a strong and
22 resilient California.

23 And with that, I thank you for your time
24 and I hope you all have a great afternoon.

25 COMMISSIONER SCOTT: Thank you very much.

1 My thanks to another excellent and informative
2 panel. We have one more panel, which is the
3 regional and local governments, and then we'll
4 have everybody kind of gather together for
5 questions after that.

6 So for regional and local government panel
7 today we will be joined by Alexander Crockett, who
8 is the Assistant Counsel from the Bay Area Air
9 Quality Management District. We will be joined by
10 Rick Martinez, the Fire Chief of the City of West
11 Sacramento Fire Department; and by Caren Ray, the
12 County Supervisor of San Luis Obispo County. So I
13 will turn it over to Alexander to take it away.
14 Welcome.

15 MR. CROCKETT: Thank you. Good afternoon.
16 My name is Xandy Crockett. I'm Assistant Counsel
17 with the Bay Area Air Quality Management District.
18 We are the regional agency that regulates air
19 pollution from stationary sources, so we have
20 regulatory authority over many of the users of
21 crude oil that might be delivered into the Bay
22 Area by rail. For example, the oil refineries. I
23 want to sort of give an introductory presentation
24 about what the role is of local and regional
25 agencies like ours, and then turn it over to my

1 colleagues here for their perspectives as well.

2 So when I say regional and local
3 government agencies, by local governments I'm
4 thinking of cities and counties that have primary
5 jurisdiction over land use and primary policy
6 power for what goes on within their jurisdictions.
7 Then also regional agencies like ours, a lot of
8 those are specialized agencies like ours which has
9 jurisdiction over air quality issues. Another
10 example would be the regional boards which have
11 jurisdiction over water quality issues, that kind
12 of thing.

13 So I want to start with what our sort of
14 formal legal regulatory authority is over railroad
15 transportation safety issues. The short answer
16 is, not much. We don't actually as local and
17 regional agencies have the legal authority to
18 regulate railroad operations or safety issues on
19 the railroads. We can't as local or regional
20 agencies, cities and counties tell the railroads
21 where they can or cannot put their tracks or build
22 their facilities. We can't tell them what kind of
23 materials they can transport or what they need to
24 do to ensure safety.

25 Our local regional authority is preempted

1 by the laws that establish the regulatory
2 jurisdiction of the federal government, which has
3 the primary authority for regulating safety of
4 hazardous materials transportation by rail. And
5 then also the Public Utilities Commission, which
6 you heard also has an important role to play
7 there.

8 So those are the agencies with the legal
9 jurisdiction, the primary legal jurisdiction for
10 addressing these safety issues, and what we can do
11 as local and regional agencies from a formal legal
12 regulatory perspective is much more limited, which
13 is part of the reason why I don't have a whole
14 bunch of slides here today of all the wonderful
15 things that our agencies are doing as local and
16 regional agencies to address these important
17 safety issues.

18 That doesn't mean that this is not a very
19 important issue for local and regional agencies.
20 Obviously, for a local city or county, if you are
21 having the impacts from rail transportation in
22 your city or county and you're bearing the risks
23 of a catastrophic accident if an accident happens,
24 it is primarily the local area in which those
25 impacts are felt that is going to be concerned

1 when a potential accident or impact happens.

2 And so I think that what you are seeing is
3 a level of frustration, I think, among local
4 cities and counties and local agencies at really
5 bearing the primary burden of the impacts that are
6 coming along with this very major increase in rail
7 transportation of crude oil that we're seeing,
8 because it's those cities and counties where the
9 potential impacts are being felt where they don't
10 actually control the policy levers to address the
11 potential safety issues that are coming down the
12 pipe. And so I think there's this level of
13 frustration that local areas are being asked to
14 bear the burdens, and yet they don't call the
15 shots as far as responding to these emerging
16 issues of importance, and I think there's a little
17 bit of a frustration that maybe the agencies that
18 do, the federal government, the state agencies,
19 have been a little bit slower to respond than some
20 of the local areas have wanted.

21 And I'm actually very encouraged to hear
22 over the previous presentations of all the
23 initiatives that have been put in place recently
24 or coming down the pipe. But I think that what
25 you might hear from the local perspective and in

1 some of the other presentations coming up this
2 afternoon is a manifestation of that frustration
3 that I think that local people are feeling in
4 their communities where they're being asked to
5 shoulder the burdens but don't necessarily have
6 the wherewithal to address the safety issues.

7 So, although local and regional agencies
8 don't have the primary regulatory jurisdiction in
9 these areas, that doesn't mean that there isn't
10 any regulatory jurisdiction, and that's the final
11 bullet here, in that local and regional agencies
12 can regulate ancillary operations that may receive
13 the crude oil by rail transportation. So for
14 example, the refineries that receives the crude
15 oil, that is subject to local regulation. The
16 distribution terminal.

17 And here a paradigm example is the WesPac
18 project in Pittsburgh. As I understand that
19 project, it needs a conditional use permit from
20 the city; and so the city, although it cannot tell
21 the railroad how it's going to operate, where it's
22 going to run its tracks and what it's going to
23 deliver and so forth, the city certainly can
24 decide whether it wants to have this kind of
25 development, an oil distribution terminal, within

1 its borders.

2 The city can decide how it wants to
3 develop its land. This is a piece of currently
4 unused industrial zone land. It currently is a
5 disused oil storage terminal that hasn't been used
6 in several decades, and what WesPac is proposing
7 to do is to revamp it so it can receive crude oil
8 by rail and then be marketed out to the
9 refineries. It needs a use permit from the city,
10 and that is the kind of decision that the city can
11 make and should be making of is this the kind of
12 development that we want to have in our city. And
13 some of the issues that go along with that
14 consideration by the city of whether it wants this
15 type of development can be some of the impacts
16 that would be associated with building the
17 facility and then having a certain number of
18 additional train deliveries coming through the
19 city in order to serve that land use.

20 So that's an overview of the regulatory
21 framework that cities and counties are working
22 under. And now I want to go into some of the
23 things, some of the roles that cities and counties
24 and regional agencies can play in that regulatory
25 framework.

1 The first role, obviously, is first
2 responder preparedness, because the primary first
3 responders that are going to be closest to where
4 any potential accident or emergency occurs are
5 usually going to be the local city or county fire
6 department, the police department, the paramedics,
7 that kind of thing. So there certainly is a role
8 for local agencies to make sure that their first
9 responders are prepared for the kind of impacts
10 that will be felt if there was a rail
11 transportation related accident involving crude
12 oil. Make sure you've got the personnel and the
13 training and the equipment and the coordination in
14 place with the knowledge to respond to the
15 particular impacts that would come from an
16 accident involving this kind of transportation.

17 Interestingly, there's a financial angle
18 here as well in that if you have to devote
19 additional resources to being able to respond to
20 one of these types of accidents, that's an
21 additional financial burden. I'm encouraged to
22 hear some news about the budget and some
23 additional resources that have been devoted to
24 statewide first responder emergency type issues.
25 If there were people at the state level who were

1 looking for a way to help leverage some of the
2 local concerns and local issues, I think that
3 maybe providing from a state level some financial
4 resources to help the local first responders ramp
5 up their efforts in this area, that would be an
6 important way forward.

7 In addition to the fire departments and
8 police departments, there's also a role for
9 specialty agencies like mine to play in terms of
10 education and training and making sure that the
11 first responders are aware of some of the
12 particular environmental impacts that may come
13 along with accidents involving crude oil. For
14 example, particular air quality concerns to be
15 aware of, particular water quality concerns to be
16 aware of. These may not be things that first
17 responders are generally aware of from their, for
18 example, general fire response training, but they
19 could be issues that are brought up because of the
20 particular nature of crude oil if there was to be
21 an accident.

22 And then finally, obviously there's a
23 coordination role for local agencies to play.
24 Make sure all the various different agencies that
25 may be called on to respond in the event of an

1 accident know who's doing what, where to go and
2 who their contacts are so that when the emergency
3 comes down everybody kind of knows what role they
4 have to play.

5 As I mentioned, there is a local regional
6 role to play for permitting of ancillary
7 activities, and so there is a role for local
8 agencies to play there when they have a permit
9 that they need to decide on. And primarily that
10 role comes through the California Environmental
11 Quality Act, CEQA. That applies where a local
12 agency has a discretionary permit or approval it
13 needs to grant for one of these ancillary
14 activities like an oil refinery operation or an
15 oil distribution terminal. And their CEQA
16 requirement is that the agency evaluate all the
17 direct or indirect impacts, environmental impacts,
18 that would come along with going forward with the
19 project.

20 So here, the rail concerns, environmental
21 concerns or hazardous materials concerns related
22 to spills or accidents, those would be indirect
23 impacts that would arise from building this
24 project, which would then have to be served by an
25 increase in rail shipments down the rail lines to

1 serve the project.

2 CEQA requires an evaluation of the impacts
3 and then where feasible you have to impose
4 mitigation measures. Because of the preemption
5 issues I was talking about before, mitigation
6 measures cannot actually be directed at telling
7 the railroad what it can carry or how it has to
8 carry it. Those impacts can be evaluated, but
9 mitigation cannot tell the railroad how it has to
10 operate, but mitigation measures can be imposed on
11 sort of ancillary impacts with the way the
12 facility that's being permitted can operate.

13 And then finally, in addition to these
14 roles there also is an opportunity for local and
15 regional agencies to use their voice as sort of a
16 bully pulpit to help the public process and decide
17 some of these larger policy issues. There's
18 public engagement in processes like these where
19 policy makers that are actually going to decide
20 how these things come down want to hear from the
21 public and hear from government agencies, local
22 and regional agencies like ours. A lot of the
23 agencies have specialized expertise. For example,
24 my agency has specialized air quality expertise
25 and in particular how it relates to the Bay Area,

1 and we can provide that expertise to the policy
2 makers at the state and federal level to help them
3 grapple with some of these policy issues.

4 And then there's also technical study.
5 The universities and the federal agencies and the
6 state agencies do a lot of that, but there is a
7 lot that goes on at the local government as well
8 from agencies like ours.

9 And then one thing I didn't have on the
10 slide, which is what I'll close with, there is
11 also an opportunity to engage with railroads and
12 have them adopt measures on a voluntary level, and
13 we've heard some of the other speakers talk about
14 that as well and that's actually something that
15 we've seen at my agency, where you can engage with
16 the operators and the railroads and so forth and
17 say, hey, we'd like you to do this, and a lot of
18 times what you hear back is the railroad saying,
19 you can't force me to do that, look, there's
20 preemption, but I'm not going to play that
21 preemption card because what you're proposing
22 makes sense, and so you can come to some sort of a
23 voluntary accommodation there, so that's another
24 important role to play.

25 With that, I'll turn it over to my

1 colleagues and they can give you their
2 perspective. Thank you.

3 MR. MARTINEZ: Good afternoon. Hold on
4 here, we're going to start my slide presentation.
5 No? Yes? Okay, perfect. You can put
6 Mr. Crockett's back up there, because I want to
7 tell you, my name is Rick Martinez. I'm the Fire
8 Chief for the City of West Sacramento. I actually
9 intended to have one slide, so that's the best
10 news you've probably heard all day. The slide
11 would have had my name on it, because that's about
12 all you really didn't know from me.

13 I'm a 40-year fire fighter. I've been in
14 the business, I started in 1974, and over the
15 course of those 40 years I've spent most of it in
16 the Fire Department and almost 8 years as the
17 chief of emergency services for the city and
18 county Office of Emergency Services in Sacramento.

19 Over the course of my career I've had the
20 opportunity to respond to a number of events. Not
21 just fire events. I responded to the Oklahoma
22 City bombing in '95, the World Trade Center in
23 2001, and a number of other activities including
24 Hurricane Katrina. I don't tell you that because
25 I want to impress you, because quite honestly

1 that's not very impressive, but I tell you that
2 because in my short time here today a number of
3 the presenters, which I've learned a lot from,
4 have talked about various aspects of what happens
5 with rail, what happens with commodities like oil,
6 and what happens when something goes wrong. Today
7 I learned something. My role is when the
8 authorized packaging goes wrong.

9 In short, Chief Campbell talked a little
10 about the Office of Emergency Services at the
11 state level and how they coordinate resources. I
12 talked about my experiences, and all of those
13 experiences ties back to one consistent factor.
14 That is, in each and every case, whether you talk
15 about west Texas and the blast that they had here
16 just a few years ago, whether you talk about the
17 oil by rail issue and the Bakken oil, or whether
18 you talk about any other manmade event or natural
19 event, it is the local fire fighters, supplemented
20 by law enforcement and emergency medical service
21 personnel, that will respond to an event that goes
22 wrong, when the authorized packaging fails due to
23 accidental or intentional acts.

24 But I can tell you quite simply that we in
25 local government -- in fact, this morning I

1 started out talking about heat and the dryness of
2 our wild land. Last night in our small town we
3 had a pretty good wild land fire. In a few weeks
4 we'll talk about heat as it affects the population
5 in the community with cool zones followed by the
6 wild land season will kick up at the end of August
7 through October. In November and December we'll
8 start talking about floods. And through all of
9 these times there will be kind of what we call our
10 bread and butter activities of emergency medical
11 services and fires.

12 And the picture I'm trying to paint to
13 you, that it's the same fire fighter that's going
14 to answer each and every one of these calls, that
15 each and every one of those incidences are served
16 by local government. I've worked for the federal
17 government, I've worked for the state of
18 California and I've worked for local government.
19 What I can tell you is the consistency there is
20 all disasters are local. They affect the local
21 community first. The local community will be
22 first on scene and they'll deal with the cleanup
23 and the mitigation and the long-term recovery.

24 Mr. Crockett, first of all he got my bully
25 pulpit up here and then he painted the picture

1 because he talked about the authorities. If that
2 were my slide that would be a pretty good slide
3 for me because of the fact that we in local
4 government have no authority over rail. Minimal
5 authority over rail.

6 You take the same commodity you put on a
7 tank car on a transit truck, I have a great deal
8 of authority in the city of West Sacramento, as do
9 my counterparts through local ordinance. But when
10 that commodity, that product is on a tank car or a
11 boxcar, we have no authority. But if something
12 goes wrong, you'll see a sad face like mine in
13 front on screen and people will start asking us
14 what we did to prepare for it.

15 I can tell you that we do all that we can,
16 but as has already been stated, local government
17 is strapped, and particularly local public safety
18 entities have been strapped over the last several
19 years of the recession. That doesn't surprise any
20 of you, nor are we special, because everybody has
21 from schools to parks.

22 The one big difference is, however, as
23 we've entered in these discussions what I want to
24 highlight is a few things that we think are
25 important. I've spent the last few weeks,

1 actually several weeks, talking to my counterparts
2 throughout Yolo and Sacramento County and Placer
3 County.

4 A good portion of the rail lines that you
5 see that will carry and are carrying today Bakken
6 oil and other like products. Bakken is not the
7 only product that comes by rail that we have a
8 concern with, it's one of many. But what I can
9 tell you is what we've been advocating at the
10 local level, why I'm here before you today.

11 I'm not a hazardous materials specialist.
12 I couldn't describe to you with any technical
13 expertise, but I can tell you that you don't have
14 to be a rocket scientist to figure out that, geez,
15 when you start by taking material of any kind and
16 you package it properly in a vessel that is
17 designed to transport it, as long as you do that
18 and things don't happen, everything's good. And
19 it's only when something changes that activity.

20 So what we have been advocating for, and I
21 should have started by saying I appreciate the
22 Commission's interest in the topic, and that is,
23 as has been stated by everybody else, is improved
24 container. Tank cars, vessels, whatever's
25 carrying the material.

1 The implementation of positive train
2 controls, including automated speed controls and
3 safer crossing. Improvement in crossing is
4 important to cities like ours because we have a
5 number of rail crossing where commodities, the
6 trains that they're carried in can come in contact
7 with some of our local motorists.

8 A lot has been said about appropriate
9 training, but I want to issue a caution when it
10 comes to appropriate training for local first
11 responders. We are offered training and equipping
12 on occasion, but you need to be mindful that what
13 comes with that is a responsibility. A
14 responsibility to maintain the equipment, of which
15 there's no funding for and I can tell you in our
16 budget like many of my colleagues' budgets there
17 is no funding for.

18 Secondarily, while we can receive training
19 in a number of facilities, well intended, we can't
20 afford to send people. To send ten fire fighters
21 to a 40-hour week, a one-week class, it costs my
22 agency \$15-20,000 of backfill, because we have no
23 down time. When someone leaves we have to replace
24 them. That \$15-20,000 for one one-week class for
25 ten people, we have to figure out a way to get up

1 that money.

2 So as you legislate training, particular
3 when you legislate mandated training, we are
4 mandated today as fire fighters to take not only
5 fire fighting classes, not only hazmat classes,
6 not only weapons of mass destruction classes, not
7 only SIDS training, sudden infant death training,
8 senior protective training. The list is long.
9 Each one of those carry mandated training. So as
10 you mandate training without the capacity to get
11 people there, doesn't help. So I can go on, but
12 what I would tell you that as you deliberate and
13 as many of you come together that you think of
14 those things.

15 And two last things.

16 One is notification. As issues come
17 forward on notification, notification has to come
18 to local first responders in a way in which we can
19 consume it. We need real-time notification when
20 we have an incident. We have to have a way to
21 access what's on a particular train on a given
22 moment. It is good to know what's coming through
23 our community. That helps us with planning,
24 training and equipping, but when we're responding
25 to the incident it's really important to know what

1 we're going to be faced with quickly.

2 And lastly, something I mentioned before
3 which is near and dear to my heart. As we look
4 towards a long-term strategy dealing with rail
5 safety in general, we should look towards a long-
6 term strategy with how and where we keep
7 commodities within our community. Today many
8 communities have overnight storage of products
9 which would not be allowed to be in those
10 communities if it was on another container.

11 With that, I appreciate the opportunity to
12 address you today and I'd be happy to answer
13 questions at the appropriate time. Thank you very
14 much.

15 MS. RAY: Hi everyone. I'm Supervisor
16 Caren Ray from the County of San Luis Obispo, and
17 my presentation is going to follow Mr. Crockett's
18 perfectly because mine will be the local
19 manifestation of the frustrations that he spoke
20 about academically in his presentation, so I'm
21 going to kind of buzz through this because he
22 really did touch on many of the same things that
23 I'm going to touch on here.

24 First of all, why San Luis Obispo? Why am
25 I standing in front of you? We are ground zero

1 for this issue. We are identified, as you saw
2 earlier with Dr. Solomon, we are identified as a
3 high-risk area or a high hazard area. We have
4 pristine coastline. We have urban areas across
5 the entire county. We have a steep and curvaceous
6 rail line that is very dangerous. And we also
7 have a pending project that happens to be in my
8 district, which is the Phillips 66 rail spur, so
9 this is one of the ancillary projects that Mr.
10 Crockett was speaking about and where we have a
11 little bit of land use authority.

12 We also have our regional transportation
13 plan that we do through SLOCOG. That's our
14 council of governments, and we've got a little bit
15 of an interface problem here, because we have
16 adopted policy for what we want coming through our
17 county and when and how, and because of the
18 preemption issue this is in direct conflict with
19 our regional transportation plan that identifies
20 piping oil as the preferred method.

21 Now, we have roles related to crude.
22 First of all, of course we have the decision
23 making regarding projects, but again, that's
24 ancillary. We have with regard to CEQA
25 implementation, this is where the rubber meets the

1 road for decision makers, and this is where it
2 becomes problematic.

3 We also have our emergency operations. We
4 are not only staffing those and planning for
5 those, but again, as decision makers we're funding
6 those, and I'll echo what the previous two
7 speakers spoke about, about having legislation or
8 regulation come down the road and making sure that
9 that's funded regulation or that we get funding
10 for those operations.

11 And on top of all of that, I am the one
12 who is perceived as responsible here, and yet I
13 have very little decision making authority. So
14 the rubber meets the road with the public with my
15 office, so I'm the face of any problem that comes
16 here.

17 Now, there's a lot of data that we need as
18 decision makers. First of all, you've heard --
19 and I'll buzz through these too because you've
20 heard it before. We need local scheduling and we
21 need real time information. We also need to know
22 what's coming and in what volumes so that we can
23 adequately prepare. We need some kind of a
24 volatility index, and I'm going to talk more about
25 this in a few slides. And the possible impacts.

1 And again, the people before me spoke about making
2 sure that we know what's coming, when is it coming
3 and what is it going to do if there's a problem.

4 And lastly, we need to have a plan for where is
5 regional apparatus. It's got to have coordination
6 across agencies, not just in our local agencies.

7 There are a lot of gaps in regulation
8 authority and people all day have been speaking
9 about this, and really this conference has been so
10 helpful, or this workshop has been so helpful to
11 have sort of a clearinghouse of everybody and all
12 the decision makers in the same room.

13 We've got the issue of preemption. We've
14 got CEQA, and especially with regard to cumulative
15 impact analysis, and it becomes impossible with
16 the absence of data. Again, we've got our adopted
17 regional transportation plan, and it really has
18 become moot at this point on this issue. And as
19 you know, we have no regulatory authority to
20 restrict what's coming into our county.

21 And lastly, again I'm encouraged by
22 previous speakers to hear about the coordination
23 and funding that is coming down the pipe, but that
24 hasn't reached the local level yet, so we're not
25 hearing about that so it feels like we as decision

1 makers are making these decisions in a vacuum.

2 Now, again, in our area we've got the
3 Phillips 66 rail project pending, and what they
4 are proposing are five 80-car unit trains per week
5 coming through the county, and they're talking
6 about an offload site within 2,000 feet of a very
7 large home development in my district.

8 We have an EIR that came out in draft form
9 in November of 2013. We expected in our 60-day
10 commentary period to get about 150 comments. We
11 got over 800, and we got them coming statewide.
12 So again this is ground zero; we're hearing it.
13 That recirculated EIR is due back in August or
14 September and it will come to our planning
15 commission in December and to the Board of
16 Supervisors in early 2015.

17 So again, as all these things are coming
18 through the pipe as we get through the legislative
19 session. All of the things that we're talking
20 about today have very real impacts on San Luis
21 Obispo County.

22 Now, the next thing that I'm going to buzz
23 through here are ten local safety concerns.
24 There's been a lot of concerns, and I'm going to
25 get real technical in the things that San Luis

1 Obispo County in particular is concerned about.
2 And the people who worked on this with me include
3 our emergency operations services manager, our
4 council of governments administrative director,
5 our Cal Fire chief, and then of course my office.

6 So the first one is we also have a nuclear
7 power plant in our county and so we have a robust
8 emergency response warning system, but our siren
9 system stops just north of the refinery and it
10 stops just south of the high risk area of track,
11 so we need to have an expanded siren system.

12 We need some kind of a quarantine area.
13 Because the trains are going through high
14 population areas, we need a place where, if we
15 have a problem, if we have a leak, if we have a
16 car that's disabled, we need a place where they
17 can go and be repaired that is prepared to handle
18 that kind of issue.

19 Our emergency operations group said that
20 they wanted some kind of a tiered notification
21 system. Don't worry, I don't mean that we need
22 Homeland Security, but it was really nice and
23 colorful. And they were talking about having some
24 sort of a weekly -- and this of course would be
25 only for EOC use, it's not for public use -- but

1 some sort of a color coded weekly determination of
2 what's coming through our county and when so that
3 we can make sure we staff our emergency operations
4 adequately.

5 We'd like to have a text or email
6 notification system, and this is somewhere where
7 we can get direct and immediate communication with
8 our constituents in the case of a catastrophic
9 accident. We don't have that capability right
10 now. It can be area specific, either near the
11 refinery or wherever the issue may be. And this
12 also offers a layer of protection in the rural
13 areas because, again, emergency response is
14 difficult as you get away from the high population
15 areas.

16 And lastly, it's low cost, but our local
17 taxpayers are the ones that are going to have to
18 pick that up. It's estimated in our county to be
19 a little less than \$100,000 per year, but again,
20 where is that funding going to come from?

21 We'd like to see the signalization
22 modernized in San Luis Obispo County. We still
23 have direct train control signaling and we have
24 hand-thrown switches in our county, and these are
25 issues that become problematic when we talk about

1 scheduling. We really want to make sure that the
2 system performance is up to par within our county
3 because we want to make sure that all trains are
4 going through at the proper organizational
5 capacity, let's say.

6 We also want to make sure that the
7 appropriate ballast is there, and our emergency
8 operations are concerned about this because we
9 don't have class one track in our county and we're
10 concerned about the weight per car increase.
11 We're concerned about the average unit train
12 weight. And we're concerned with overall traffic
13 of the unit trains.

14 And another word on that. It's not just
15 the five unit trains that are being proposed as
16 part of the Phillips 66 project, but we also have
17 other trains coming through our county and we
18 don't know how many or when because of the
19 preemption issue.

20 We definitely would like to see the
21 positive train control implemented. We've heard
22 that it may be delayed but that it is hopefully at
23 this point required in 2016. And we also believe
24 that it should be required system wide on any
25 tracks that have interface with the manifest

1 trains that have over 35 units or the unit trains.
2 We think that all of the cars should be equipped
3 with this if they have the probability or
4 possibility of meeting up or passing with unit
5 trains with the crude oil.

6 And this is a really important one to us
7 as well. There's a lot of talk about Bakken
8 crude, and our concern is that we should not be
9 identifying the commodity by its place of origin
10 but rather by its volatility and that there should
11 be some kind of a volatility index, not just the
12 packaging ratings, but for emergency operations
13 use. And again, we kind of have this
14 colloquialism that has developed that Bakken crude
15 is now being used interchangeably with high
16 volatility crude, and so we're getting away from
17 accuracy here.

18 We need local financial support. We've
19 heard about this all day long. We don't have
20 local funding for this and we don't have anything
21 coming down from state or federal funding, so our
22 taxpayers, my taxpayers, are the ones who are
23 knocking on my door saying why do I have to pay
24 for this? And I have no way to tell them that I
25 have any discretionary authority over this.

1 And lastly, again, the proper CEQA
2 analysis. That's a picture of the Phillips 66
3 project. I'm sure that you are all well aware of
4 this, right? No, I'm just kidding. But we have a
5 cumulative impact analysis that we've got to do,
6 but again, without the information it's very
7 difficult for us as decision makers to make an
8 accurate determination of what those cumulative
9 impacts may be and how we can adequately condition
10 a project.

11 And on top of that, the last one here is,
12 how do you condition the project when the -- I'll
13 say problem but I don't mean to point at the
14 railroads, but when we're looking at the impact of
15 the main line but we're conditioning an applicant
16 that's not the main line operator, that makes the
17 whole thing very difficult. So again, you're
18 hearing that real world frustration that
19 Mr. Crockett talked about.

20 So in conclusion, San Luis Obispo County
21 has been identified a high hazard area for just
22 about every reason you have on the list, and we
23 need a resolution of safety concerns as this is
24 critical as part of the CEQA analysis for not only
25 this pending project but anything else and it's

1 almost impossible to make those determinations
2 without the information that we're begging for
3 today. And our concerns center around the lack of
4 control over rail traffic and access to
5 information, and also with inadequate local
6 emergency preparedness and with funding.

7 So thank you so much for the opportunity
8 to speak on behalf of San Luis County and other
9 local decision makers.

10 COMMISSIONER SCOTT: Thank you. Thank you
11 very much. And that was yet another terrific and
12 informative panel. Thank you for that great
13 information.

14 What I'd like to do is it's time to have a
15 few questions from the dais. We had quite a few
16 speakers, and so what I might suggest is that
17 maybe folks gather kind of near the front row and
18 there's the two mics that we can see right here
19 and that way everyone doesn't have to kind of
20 stand around and potentially jockey for position
21 at the one microphone there.

22 But this would be Ernie Sirotek from the
23 Federal Rail Administration; Jack Whitley from the
24 Pipeline and Hazardous Material Safety
25 Administration, all of our state roles and

1 responsibility folks, Gina Solomon, Paul King, Tom
2 Cullen, Tom Campbell, and let's keep our regional
3 and local folks as well, which is Alexander
4 Crockett, Rick Martinez and Caren Ray.

5 I also just wanted to remind folks that if
6 you have questions or comments that you'd like to
7 ask during the public comment period, please be
8 sure to get a blue card from our public advisor.
9 She's sitting up front and she's happy to take
10 your cards and collect those. That's the way to
11 get involved in public comment from here.

12 And a reminder to everyone that the
13 presentations that you saw are all up on our web
14 page so you'll be able to access those.

15 So let me turn to my friends here on the
16 dais and see what questions we might have.

17 COMMISSIONER DOUGLAS: All right.

18 COMMISSIONER SCOTT: My first question is
19 for Jack from PHMSA, and I just wanted to make
20 sure that you would please submit for us on the
21 record the statement that you read as you were
22 making your presentation. Would you please do
23 that?

24 MR. WHITLEY: What would you like me to
25 do?

1 COMMISSIONER SCOTT: The statement that
2 you read while you were giving your presentation,
3 would you please be sure to submit that to us?
4 Was the whole statement in the PowerPoint?

5 MR. WHITLEY: I don't believe it is, but
6 I'll see what I can do about that.

7 COMMISSIONER SCOTT: Yeah, if you'd just
8 hand a copy of it to the -- that would be
9 terrific.

10 MR. WHITLEY: Yes, ma'am.

11 COMMISSIONER SCOTT: Okay, thank you. I
12 have some questions too, but we'll start with you.
13 Go ahead.

14 COMMISSIONER DOUGLAS: So I just had a
15 couple questions for the federal representatives,
16 and maybe between yourselves you may both want to
17 answer the questions or you may one or the other
18 decide to step forward.

19 But I was hoping you could comment on what
20 the Canadians have done with regard to regulation
21 of tank cars and also with what they recently did
22 regarding legacy cars. In other words, the tank
23 cars that are not being built to newer
24 specifications -- that were not built to newer
25 specifications.

1 MR. SIROTEK: Well, I don't have any
2 documentation in front of me to quote from, so in
3 general terms this is my understanding.

4 My understanding is that they're treating
5 all petroleum crude products in Canada, originates
6 in Canada, as a packing group 1 material until
7 further notice. That was the last communiqué that
8 I had received on petroleum crude oil being
9 generated in Canada.

10 Secondly, I am under the understanding
11 that they are restricting the loading of the
12 legacy cars, period. They are encouraging all
13 offers of petroleum crude to be loaded into the
14 newer CPC 1232 constructed tank cars and that
15 they're restricting the loading of the legacy tank
16 cars. And that's what I know at this point.

17 Jack, you have anything to add to that?
18 Okay.

19 COMMISSIONER DOUGLAS: Okay. Just a brief
20 follow-up question. You know, we heard from the
21 industry a concern that to the extent possible
22 regulations should be the same and not different
23 across the border so that, you know, you could
24 imagine a different schedule for phase-in of
25 retrofit requirements or you could imagine

1 different substantive retrofit requirements and
2 that potentially causing issues. Is that
3 something that you've been looking at?

4 MR. SIROTEK: Well, we recently come out
5 with a safety advisory as well recommending that
6 industry utilize the newer constructed tank cars
7 for consistency, with the understanding that there
8 is, you know, a phase-out period that we're
9 suggesting and not making mandatory at this time,
10 but in the form of a safety advisory encouraging
11 the newer tank cars to be used and phasing out the
12 legacy cars as you can. And yes, we would like to
13 see some consistency between what we're doing and
14 the Canadians are doing as well.

15 COMMISSIONER SCOTT: When you say 'as you
16 can' there's not a specific timeline that's
17 associated with that.

18 MR. SIROTEK: That is correct, there is
19 not a specific timeframe, but we have this
20 understanding that new tank cars are being
21 constructed daily and the numbers are just not
22 there to meet the demand, so it's very difficult
23 to put a specific timeline on the phase-out of the
24 legacy 111 tank cars.

25 COMMISSIONER SCOTT: Okay, I have a couple

1 questions and then I'll see if other folks have
2 some as well.

3 The other question, Ernie, that I had for
4 you, since you've got the mic in your hand, was
5 you mentioned the emergency order that you had put
6 together, and I was wondering if there was
7 additional information that you need that would
8 help to enforce that emergency order, or do you
9 have enough information to enforce that?

10 MR. SIROTEK: Well, there's two key
11 emergency orders that we're talking about, right?
12 There's Emergency Order 28; that was the
13 securement of the trains outside of yards and
14 terminals and communicating that to the
15 dispatchers and stuff.

16 And the other emergency order was related
17 to notification to the SERCS of the million
18 gallons of petroleum crude originating from the
19 Bakken.

20 You know, I think we have a good handle on
21 -- I just looked at the draft questionnaire set
22 that came out to us from D.C., and it covered all
23 the elements. There's going to be some
24 coordinated efforts from headquarters and there's
25 going to be some participation from the regional

1 folks as far as coordinating with the SERC to see
2 if they are actually getting the notification and
3 what kind of notification they're actually getting
4 so that we can put the two data elements together
5 and make sure that we have a complete audit cycle
6 in that.

7 COMMISSIONER SCOTT: Thank you. Okay,
8 I'll just keep going. I had another question for
9 Jack.

10 In your slide you mentioned the placards
11 and the labels, and I was wondering whether or not
12 the placards and labels give the emergency
13 responders enough information to know how to
14 respond and do they give the FRA enough
15 information to know how to make the three
16 classifications that they laid out, or does it
17 give enough information to the railroads about
18 what is actually being carried? And so I just
19 wanted to know a little bit more about those
20 placards and labels.

21 MR. WHITLEY: The placards that are
22 required for a bulk package are also required to
23 have the UNID number put on there. That UNID
24 number is product specific, it is not packing
25 group specific. But in the case of crude oil the

1 response does not change for the packing group, so
2 the emergency responders have all the information
3 that they need in order to respond to that
4 incident as long as they can read that UNID number
5 on the placard itself.

6 COMMISSIONER SCOTT: Yes, please.

7 MR. SIROTEK: I would just like to add to
8 that just a little bit. Now, there's been some
9 discussion from D.C. on how the railroads can
10 communicate emergency response information so that
11 they could specifically identify like materials
12 from the Bakken or materials of that nature that
13 have a really lower flashpoint, packing group type
14 one material.

15 Now, the railroads, everything they
16 transport is identified with a standard
17 transportation commodity code, okay, or STCC for
18 short. Anything that transports in the hazardous
19 materials realm starts with a 49 series stick.
20 Now, it's been suggested as a recommended
21 solution, whether the railroads adopt it or not,
22 is that a recommendation exists that maybe they
23 can identify those specific commodities with its
24 own stick number and generate its own emergency
25 response information driven from that stick

1 number. Now that's being considered out there, so
2 we hope that that kind of information will come
3 out in the end product as we see it.

4 COMMISSIONER SCOTT: Good.

5 MR. RECHTSCHAFFEN: I have a question for
6 Supervisor Ray. Supervisor, I'm wondering, are
7 you working with your counterparts in other
8 counties on similar efforts for their projects in
9 different parts of the state? Are you --

10 MS. RAY: You mean with regard to
11 emergency response or with regard to the approval
12 of the CEQA documents that we were talking about?

13 MR. RECHTSCHAFFEN: Not the specific
14 project at stake but the more general issues in
15 gaps and needs that you identified.

16 MS. RAY: We're still trying to identify
17 that internally and those discussions are just
18 beginning, so we're just starting that outreach
19 right now, but right now we're still identifying
20 who's got what information at this point. So I
21 hope to continue to do that and to continue to
22 reach out to other counties. But again, what
23 we're really trying to do is identify just what
24 information we need in the first place and who to
25 get that from.

1 MR. RECHTSCHAFFEN: Thanks.

2 COMMISSIONER SCOTT: Great. Another
3 question that I had, and this is maybe to everyone
4 who was on the panel. When you looked at the
5 terrific map that Gina showed us where we had the
6 high hazard areas, and you know, I was wondering
7 what you all think, and many of you mentioned this
8 as you were giving your presentations as well, but
9 what types of fixes or improvements would you
10 recommend or are things that you would like to see
11 that would make some of those areas potentially
12 less hazardous?

13 MS. RAY: Before I hand it off, I know
14 that in my presentation we showed some pictures
15 and some of that is, you know, our rail line, our
16 main line isn't traditionally used for this kind
17 of freight, it's more the passenger type thing, so
18 ours needs significant upgrading to bring in
19 modernization, especially with regard to the
20 direct signalization and the hand-thrown
21 switching. So I'll pass that off to others who
22 may...

23 DR. KING: Well, and those areas were
24 developed in the mid-90's, and the nice part about
25 that map is it's a work in progress. We'll be

1 updating it, working on it and making sure that
2 it's providing information that's needed from it
3 today rather than the purposes it had back then,
4 which are very, very similar but still there are
5 some nuances that we need to address, so that's a
6 work in progress.

7 COMMISSIONER SCOTT: Others? Any
8 questions? Okay.

9 All right. Well, again, thank you very
10 much. I think this was an incredibly informative
11 panel. I appreciate your thoughtful
12 presentations.

13 We are now going to shift to an outlook
14 from other organizations. We will go to
15 environmental perspectives, and we're actually
16 going to flip the order of the speakers, so we
17 will hear from Diane Bailey, a senior scientist at
18 the Natural Resources Defense Council, first, and
19 then she'll be followed by Greg Karras, senior
20 scientist from Communities for a Better
21 Environment.

22 Welcome, Diane. Welcome, Greg.

23 MS. BAILEY: Good afternoon. Thanks very
24 much for including the environmental perspective
25 here. These have been really great informative

1 presentations. I want to talk to you about a
2 recent series of maps and information that we
3 released called The Exploding Threat of Crude by
4 Rail in California, and this stems from some
5 community work that we've been doing with the
6 various communities across California who are now
7 facing large new crude by rail oil terminals and
8 very concerned about the safety threats.

9 And these are not the rail terminals of
10 yesteryear, as you guys know. What we're hearing
11 from our experts as we consider three or more
12 large terminals in the Bay Area and many more
13 across the state, at least two in Bakersfield, and
14 we've heard in the central coast, potentially also
15 in southern California, we're hearing that these
16 rail terminals present dual threats, not just in
17 the prospect of exploding rail cars and accidents
18 with the rail cars, but also with the contents of
19 the rail cars and what we might be bringing into
20 California, these extreme crude oils, fracked,
21 Bakken crude, and of grave concern to NRDC, tar
22 sands, Canadian tar sands, a very contaminated,
23 dirty crude oil. We're already seeing an influx
24 of some of these into our state.

25 Before I get into some of our concerns, I

1 want to note environmental justice considerations,
2 especially in these Bay Area projects.

3 As far as we know, every refinery in the
4 Bay Area right now is proposing a new project, and
5 we have some additional oil terminals on top of
6 that, and these seem to overlap almost perfectly
7 with areas already identified by our air district
8 as health vulnerable and vulnerable to air
9 pollution, so we have some very serious
10 environmental justice considerations with these
11 new terminals that I think bear extra
12 consideration. We're talking about historically
13 contaminated areas and overburdened populations.

14 Let me talk first a little bit about the
15 direct safety threats of these rail cars coming
16 through these communities. This is the most
17 serious concern that we keep hearing from the
18 advocates that we're working with out in the
19 communities.

20 In Benicia where there's the recent Valero
21 crude by rail EIR that was released. In
22 Pittsburgh where folks have been fighting off the
23 WesPac oil terminal, the marine rail pipeline and
24 tank farm complex, as well as many other
25 communities, Richmond, Rodeo and Martinez.

1 Everyone's seeing these rail cars filled
2 with crude oil derail and explode on the nightly
3 news. We've seen at least a dozen very serious
4 accidents over the past year as crude by rail has
5 ramped up. With the 100-fold increase in crude by
6 rail in California, you can't help but ask the
7 question what if that happened here? Six of these
8 accidents had major fires and explosions, so this
9 is a really serious concern. And not just to the
10 communities that are hosting the oil terminals,
11 but also to the communities that will see these
12 mile-long trains laden with explosive crude oil go
13 through and get no say in these projects.

14 So we did a little mapping exercise to see
15 who is in harm's way by these oil terminal
16 proposals, how many people in California may be in
17 harm's way, how many schools are in the federal
18 evacuation zones.

19 Now a note about these maps. We looked at
20 two different distances from the main rail lines.
21 We looked at the half-mile federal evacuation zone
22 for derailments, but we also looked at one mile
23 because the DOT recommends a one-mile evacuation
24 radius for any derailment that involves a fire.
25 We think the one-mile zone is the most important

1 because you can never predict when these things
2 are going to catch on fire.

3 We found hundreds of thousands of people
4 in harm's way around these rail lines looking at
5 these seven communities. Sacramento is most
6 impacted. There are many communities along the
7 way that we didn't map, but in total, looking at
8 all the new crude by rail projects that are
9 proposed, we found that almost four million
10 Californians are within a mile of these rail
11 routes and very much impacted, and several hundred
12 schools as well.

13 So this is what it looks like in the
14 community of Richmond where the Kender-Morgan rail
15 terminal popped up virtually overnight in terms of
16 its crude oil capacity. It was formerly an
17 ethanol terminal and it changed over to accept
18 mile-long crude oil trains. I was just visiting
19 earlier this afternoon, saw two very large crude
20 oil trains there today, one coming in, one coming
21 out.

22 And this is a serious threat. People in
23 Richmond are very upset. They weren't consulted
24 about it. There was no public process. Yet we
25 see 75,000 Richmond residents who are directly in

1 harm's way from this project, and we're demanding
2 a public process on that.

3 This is what it looks like in Pittsburgh,
4 California with the WesPac terminal outlined in
5 yellow, that's that proposed project. You see a
6 lot of different schools there, and we actually
7 talked to the unified school district out in
8 Pittsburgh and they were very alarmed by the
9 project, so alarmed as to adopt a resolution
10 opposed to WesPac.

11 So I can't emphasize enough that proximity
12 matters. We're very concerned about children and
13 residents being directly in harm's way, living too
14 close to the rail tracks. And it's a little hard
15 to see in this picture, but this is a photo of a
16 home in Pittsburgh that's just a stone's throw
17 away from those tracks. There are churches,
18 schools, playgrounds. You see the tank farm in
19 Pittsburgh looming over a playground and the Saint
20 Peter School right on the fence line.

21 Okay, so let me quickly shift gears and
22 talk about the threats from within the rail cars,
23 and that is the dirty extreme oil that's coming
24 in.

25 Right now we have some amount of tar sands

1 coming into California and it's a concern, but of
2 greater concern to us is the potential for growth,
3 the potential for a quarter or a third of our
4 refining capacity to change over to dirty
5 contaminated tar sands and present a whole host of
6 environmental health and community problems.

7 As far as air pollution, one thing to note
8 about tar sands is they are contaminated with a
9 lot of heavy metals. For instance, the lead
10 levels in tar sands crude oil are five times that
11 of standard conventional oil or the average U.S.
12 oil. And so you have to ask the question, well,
13 what happens to all those heavy metals when you
14 start to refine that dirty contaminated crude?

15 We're going to see some pretty serious air
16 pollution problems. And you have to work a lot
17 harder to refine tar sands crude because it's much
18 heavier, and so we expect to see perhaps a 50
19 percent increase in air pollution from tar sands
20 refining. We actually really don't know and we're
21 asking our regulators to take a close look at that
22 and tell us.

23 There are lots of studies that look at
24 greenhouse gas impacts of refining tar sands and
25 show us that we could be looking at an 80 percent

1 increase in greenhouse gases from refining tar
2 sands relative to the U.S. average. We would
3 expect a comparable or higher increase in air
4 pollution, so that's a serious concern.

5 Other concerns include noxious odors.
6 This is an ongoing community concern, and tar
7 sands have a particularly serious problem because
8 they are high levels of sulfur compounds,
9 especially the very noxious mercaptans, which are
10 also highly flammable.

11 Okay, so just speeding along here.

12 The production of petroleum coke, a toxic
13 byproduct, is also a serious problem. Tar sands
14 typically produces about twice as much toxic
15 petroleum coke as standard crude oil.

16 And then also coming back to accidents.
17 Extreme crude oils are much more corrosive than
18 standard crude oil, and that's a serious problem
19 that the Federal Chemical Safety Board has
20 identified. So not only are we concerned about
21 the transport accidents but also refinery
22 accidents with extreme crudes.

23 We're very pleased that the state has a
24 working group on these issues and is looking at
25 some recommendations, but what we really need is

1 urgent action. We want to see all of the new
2 crude by rail infrastructure projects put on hold
3 until we really get a better sense of what the
4 consequences are of these projects and get the
5 safety situation under control.

6 We have a lot of other recommendations,
7 they're in our report recently released online. I
8 think I'm going to turn it over to Greg Karras to
9 give you a few more details and concerns about
10 dirty crudes. Thanks very much for your
11 attention.

12 MR. KARRAS: Hi everybody. Greg Karras,
13 Communities for a Better Environment, I'm a senior
14 scientist. Thank you for the invitation to speak.
15 I'm going to be brief and be happy to answer
16 questions.

17 So just to get out of the way what do we
18 want, we don't want any crude transported by rail.
19 We think it's even more dangerous than the current
20 unacceptable situation with oil in our communities
21 and our state and we think it's unnecessary. I'm
22 going to talk about the downstream impacts after
23 the oil gets delivered, and I guess you could ask
24 why?

25 Three reasons. The crude's coming here

1 now at least while there's no domestic export
2 allowed. The refineries here are the reason it's
3 coming. Their desire for it is the reason it's
4 coming.

5 We can do things here that matter. This
6 slide, I think it's always important, first of
7 all, to keep in mind that we're in the middle of
8 an historic change in our energy system and in our
9 oil industry and the use patterns. There's a
10 clear and dramatic several percentage drop for the
11 first time in, I think, the industry's modern
12 history in our state in how much gasoline we're
13 using. That's projected to continue. It's one
14 example of many of the things we can do here that
15 matter that will make a difference.

16 And finally, as Diane mentioned and
17 started to get into, the reason is that there are
18 real impacts from refining different qualities of
19 oil.

20 So just in terms of scale, this is a
21 projection. Well, most of this chart is a
22 projection. The exponential increase in rail
23 transport of crude in the last few years is the
24 small part. These are the terminals, the capacity
25 of the terminals we know of from CEQA documents,

1 and it's expressed as a percentage of the capacity
2 of all of California's refineries, so we're
3 looking at a scale of what could be in a very few
4 months or years a massive change in the sources of
5 the crude supply.

6 Just note that the color code there is
7 pretty speculative. At the moment it's a little
8 more than half of the crude coming in, according
9 to your CEC records, it's coming from Canada
10 actually, not from domestic sources so not from
11 the Bakken. Bakken might be near 50 percent,
12 might be most of the rest of it. And it's about
13 that kind of mix if you're going to try to mimic
14 Alaska north slope density. So take the color
15 coded sort of distribution of where it comes from
16 with a grain of salt, but that's the scale of the
17 total increase. It's very significant what could
18 be coming very soon.

19 And we actually know a lot, not
20 everything, but a lot about the potential refining
21 impacts. CBE has been faced with this problem and
22 has been investigating it for almost 30 years.
23 This is a 20-year-old slide from a report on water
24 pollution, toxic selenium discharges per barrel
25 refined. More than a 10-fold difference depending

1 on the oil that's used.

2 This is peer review work that I did for
3 CBE, a couple of studies. These are actual
4 observations. This is actually real world data
5 from operating refineries around the country and
6 California. And in case you're wondering,
7 California is near the high end of this already on
8 average. If you were to assume that we go to 100
9 percent tar sands bitumen, that would be off the
10 chart to the right in a bad way.

11 All of these slides except for the first
12 one are things that have actually happened and
13 been observed, by the way.

14 This is data from the CSB and from CBE on
15 the mechanical problem, the damage mechanism that
16 caused 15,000 of us to have to go to the hospital
17 less than two years ago when Chevron blew and had
18 their fire in Richmond. The pipe, just to explain
19 it, the shading in gray represents the thickness
20 of the wall of the pipe that corroded, thinned and
21 eventually ruptured when it go to be less than the
22 thickness of a dime. The red is sulfur in crude,
23 the black sulfur in gas oil distilled from that
24 crude that was running through that pipe. Sulfur
25 caused the corrosion and high temperature. And

1 you could see that the corrosion accelerated
2 dramatically, four times faster, a little bit more
3 than four times faster after the sulfur level went
4 up.

5 A point worth noting. The highs there,
6 the increase in sulfur that caused this at this
7 refinery in this pipe, Chevron now is proposing to
8 double that amount of sulfur, that sulfur content
9 in its crude, and that still wouldn't bring it up
10 to the level that we could see from tar sands
11 imports. Sulfur is not the only problem with
12 corrosion and with safety with the crude, but this
13 is a good example of it.

14 Another one, and this relates to Bakken
15 and shale oil. On average in California
16 refineries, because of the way they're built,
17 unless they were completely rebuilt we will see
18 blending of the shale oil when it's really light
19 with other oils. Turns out that blending shale
20 oil appears to cause a number of problems in
21 refineries which, as we know, does not mean that
22 they will not do it if they're allowed to and if
23 it's cheaper, but it means those problems will
24 occur, and some of them are safety problems.

25 One I'd like to talk about a little is the

1 potential for increasing production of coke
2 deposits. Most people think that the coke's all
3 from cokers and it all gets exported and burned
4 somewhere else. In fact, coke is burned every day
5 in almost every refinery in California in the
6 hundreds of tons because it is also depositing on
7 the catalyst and catalytic crackers.

8 This is a simple diagram of it. The way a
9 cat cracker works, the catalyst mixes with the
10 oil, the coke builds up on it, very quickly it is
11 -- the catalyst is expensive and so coke's burned
12 off the catalyst so that it's reused. That also
13 heats the process. As a result, Chevron, for
14 example, about 750 tons of catalyst coke are
15 burned every day.

16 If the coking rate increases because of
17 the oil switch causing that from mixing with
18 Bakken, you could see a drastic increase in this.
19 For example, fine particulate matter. This
20 cracker, according to the air district
21 measurements, the best data that we have that have
22 been reported in the district's inventory, we
23 suspect that there are some accuracy issues and in
24 fact they might be high or low. But according to
25 the reported data, Chevron's cracker is admitting

1 more fine particulate matter than every source.
2 Tailpipes, fireplaces, all other industrial
3 sources, every stove in all of the rest of
4 Richmond outside of the refinery combined. This
5 is a really major source.

6 So going back to the one slide that is
7 speculative and hasn't happened yet and can be
8 stopped. I guess I'd say that, you know, kind of
9 obviously environmental justice would demand
10 considering the potential refinery impacts on top
11 of all the costs that many of you have eloquently
12 put forward for local governments, for state
13 governments, on top of the safety concerns and the
14 very real threat of having frankly an even more
15 dangerous way of transporting oil than we have
16 already. And I'd like to ask a couple of
17 questions.

18 You know, note the part of the chart I
19 haven't talked about. Right now still today crude
20 by rail imports into California are less than one
21 percent of the capacity of our refineries, less
22 than one percent, in a world where we're using
23 fifteen percent less gasoline than we were ten
24 years or eight years ago. So is it really needed?
25 Do we need? What benefit is there to our state,

1 to our communities from also importing crude by
2 rail?

3 And if there's no societal downside, and
4 we have rather than just talking about preemption
5 from a law that was passed. I'm not a lawyer but
6 I'm pretty sure that the railroad laws and the
7 preemptions were laws that were passed long before
8 the Civil Rights Act was passed.

9 You know, for example, you might consider
10 all getting together as a state and as local
11 governments and joining us with a civil rights
12 complaint to the federal government. There's more
13 that you could do.

14 And I'd like to say just in general we
15 don't have to lay down for this, we should fight
16 it if we think it's a bad idea and not just
17 prepare for it, not just assume that all we can do
18 is adapt.

19 Last, I would ask a couple of questions on
20 the data side. Why do we know so much about the
21 impacts of refining this stuff? Why do we know as
22 much as we do about the volatility issues, about
23 the way bitumen will sink to the bottom?
24 Obviously it's because we have some data on the
25 oil quality and that hasn't been trade secret,

1 it's public data.

2 So ask what in terms of practical
3 immediate steps we could take to build towards
4 having more local power and more state power to
5 protect ourselves and protect our wallets too,
6 what would it be like if we actually had more of
7 those data? Why can't we get them? Thanks.

8 COMMISSIONER SCOTT: Thank you. Thank you
9 very much, Diane and Greg, for the environmental
10 perspective and your thoughtful presentations.

11 Next we will hear the oil industry
12 perspective, and that is Tom Umenhofer. I'm sorry
13 if I didn't get your name quite right. He is the
14 Vice President of the Natural Resources Group and
15 a senior environmental advisor to the Western
16 States Petroleum Association.

17 Welcome, Tom.

18 MR. UMENHOFER: Thank you very much. Feel
19 like I'm batting cleanup here a little bit. And
20 want to just mention Western States Petroleum
21 Association represents the major oil production
22 refineries in the state of California. We are
23 usually on the receiving end of the rules and
24 regulations made by most of you in the room here,
25 and we're also an active willing participant in

1 the rulemaking process.

2 What I wanted to do here is a little
3 different. You notice I don't have any slides. A
4 previous speaker got applause for having one
5 slide; I have zero slides. What I wanted to do is
6 something a little bit different here. Because we
7 are not in the business of rail cars and
8 railroads, what I wanted to do is kind of bring
9 this back and talk about takeaways, at least
10 takeaways from our industry perspective from what
11 we heard today.

12 If I were to do a PowerPoint presentation,
13 it would be the slides you saw today. Many of us
14 in this room have done pieces of this during the
15 past several years, and I want to commend the CEC
16 because this is the first time all these
17 presentations have been done in one day at one
18 place. I think it's just been excellent. And so
19 what I'm going to try not to do is repeat what
20 folks have done, but I do want to get up here and
21 talk about takeaways.

22 I also wanted to make a comment. I don't
23 know if Supervisor Ray is still here, but I
24 empathize with her. I was a county Commissioner
25 in Santa Barbara County, neighboring county, for

1 many years and we're responsible for incorporation
2 of cities, and I used to walk down the street in
3 my neighborhoods and my neighbors would come up to
4 me and say, when are you going to fix the
5 sidewalks? And I said I don't do that, that's
6 Public Works. I'm a different kind of
7 commissioner. So you in these public positions do
8 have challenges because folks sometimes don't
9 understand exactly what you do. I think we've
10 done a lot today to get a better understanding of
11 what folks do.

12 I've been in the environmental business
13 for some three, almost four decades and dealing
14 with a lot of these issues in the energy industry,
15 primarily gas and oil, so I wanted to talk about
16 four takeaways today.

17 And the first takeaway is that U.S. crude
18 oil production is clearly on the rise.
19 Notwithstanding what your position is on that,
20 we're seeing these great increases in crude
21 production in the Bakken, Eagle Ford and other
22 locations. The increase we've had over the last
23 three years, over a million barrels a day, was the
24 largest increase worldwide and certainly the
25 largest uptick in U.S. history. So the supply is

1 increased and it's not where it traditionally has
2 been.

3 And in light of that, something that
4 hasn't been mentioned, it provides a higher level
5 of satisfaction in domestic energy security. In
6 other words, less imports, and I think that's a
7 good thing, along with job creation and economic
8 development.

9 The takeaway point number two that I had
10 was California oil production suggests that it
11 cannot meet the demand in California, and you've
12 seen it in the graphs earlier today and in a graph
13 just now is that California consumes about 41
14 million gallons of gasoline, 11 million gallons of
15 diesel fuel per day. The refineries can meet that
16 demand, but the production in California cannot.

17 Earlier today you saw the presentation by
18 Steve Bohlen where he talked about how the oil
19 fields are mature. They are indeed mature in
20 California. And you saw a production that is
21 relatively flat. In order to meet the demands of
22 the public through the production of refineries of
23 gasoline and diesel products, the crude oil is
24 going to have to come from somewhere, and it can
25 either be done by rail or by the ports. That

1 means international perhaps transport of crude
2 oil. And then you saw the limitations, the
3 significant limitations in pipelines coming to the
4 state of California. So that's point number two.

5 I did want to touch on a couple things
6 briefly, just informationally.

7 We talked about production and Monterey
8 shale formation. That does offer an opportunity
9 and where the gas and oil industry is today is
10 looking at advancements in technology to address
11 that opportunity, but the answer to that question
12 is yet to be seen. And I think you've seen that
13 in presentations too, the projections were greater
14 in the past than what they are today, and there's
15 a lot of work that needs to be done. So for now
16 as we sit here today, you can look at a production
17 as it's represented by the traditional production
18 that we have here and it shows a little deficit.

19 The second item I wanted to touch on is
20 hydrologic fracturing. It was mentioned in an
21 earlier presentation as well. Hydrologic
22 fracturing has been done for some 60 years in the
23 state of California. It's what we call part of a
24 completion process. Now, what that is is a
25 process after you drill a well to connect the well

1 to the reservoir. Hydrologic fracturing takes a
2 matter of hours, doesn't take a matter of weeks.
3 It's usually vertical, state of California. Much
4 different than elsewhere because we're talking
5 about oil plays in the types of formations we have
6 in California.

7 Undoubtedly, we have focused on safety and
8 this is strongly regulated for decades by DOGGR,
9 who have done a fine job, and indeed SB4 new
10 regulation will ensure fracking will continue to
11 be done in a safe and efficient manner.

12 Takeaway number three that I had is crude
13 by rail is important to supply the markets of the
14 west, and you've seen a lot about that today.
15 Even though the state of California is the third
16 largest consumer of gas in the world, we can't
17 possibly supply that need with the supplies that
18 we have here, so it has to get here some way. I
19 think that those are decisions that you folks have
20 to make on how that gets done, but it is an
21 important component of our economy and is
22 important to how we service this energy desire
23 that we have in the state of California.

24 And the final and perhaps the most
25 important takeaway for me is that rail safety is

1 still, has been and will be priority number one.
2 The rail by crude (sic) is considered extremely
3 safe operation. You heard the data earlier in the
4 day more than once, 99.997 percent, but we're all
5 working to make that number even smaller. There's
6 been great cooperation going on amongst the trade
7 associations and the rail operators and the gas
8 and oil industry is a part of that, and as part of
9 that we've gone into these programs that you have
10 seen listed in the past, including tremendously
11 enhanced emergency response training and experts
12 getting together to try to work on better
13 technology, better policies and better science in
14 terms of how we operate, and particularly for our
15 end of the business, the loading and unloading of
16 crude. So we can only expect better things for
17 the future.

18 In closing, I did want to do this. I
19 wanted to express appreciation to the state and
20 federal agencies we've worked with for many years
21 to improve the safety of operations, both the gas
22 and oil industry and rail, as well as protecting
23 the environment. We are key stakeholders, but we
24 also work very, very closely with agencies such as
25 the State Lands Commission; DOGGR; the U.S. Coast

1 Guard, unbelievable operation; the Air Resources
2 Board, sometimes called my second home; and OSPR,
3 which is sometimes called my third home. Great
4 agencies, great associations. This is how we need
5 to get things done as a community working together
6 and certainly this is an example of going in the
7 right direction.

8 I thank you for the time.

9 COMMISSIONER SCOTT: Thank you. Great,
10 thank you very much.

11 I would like to invite Diane and Greg to
12 come join you, Tom, and we will see if we have
13 some questions from the dais.

14 Go ahead, Cliff.

15 MR. RECHTSCHAFFEN: I have a question for
16 Greg and Diane. Can you summarize or characterize
17 -- I don't know if you know this -- from the
18 proposed projects that you've reviewed what
19 information there is about the quality or the
20 characteristics of the oil that they're likely to
21 be handling or building to import, what do we know
22 so far?

23 MR. KARRAS: I'm guessing either of us or
24 both could answer.

25 MR. RECHTSCHAFFEN: I think you should

1 fight over it.

2 MR. KARRAS: Yeah. She won, I get to
3 answer. Again, Greg Karras, CBE.

4 I have been directly involved in analysis
5 of many of the projects. As the lead
6 investigator, I have been involved for CBE in
7 checking or secondary analysis on almost all of
8 the others. The exceptions would be the
9 Bakersfield ones. And so for all the coastal
10 projects north and south, including the one in San
11 Luis Obispo County and Nipomo, the Phillips 66
12 project that the supervisor spoke of, with one
13 exception the projects appear to be linked to
14 changes in refineries that indicate or at worst in
15 most cases show that the oil would be denser and
16 more contaminated. That's what they're tuning for
17 in the refineries.

18 The one exception appears to be one of the
19 newest projects at Shell Martinez, which is
20 closing or proposing to shut down one of its
21 cokers and proposing some other changes that
22 preliminarily look like what they say in the
23 notice to the county, switching to a lighter crude
24 slate, which in that case might involve more shale
25 oil.

1 And I would just add that that's based on
2 public information that's not included in the CEQA
3 documents. In most cases, only two of the EIRs
4 that I've seen have actually disclosed the oil
5 quality and the industry has generally claimed its
6 trade secret, but we know that's not true because
7 we're using published information even in our peer
8 review work, so we know that information is
9 available.

10 MS. BAILEY: Let me just add to that that
11 this has been a real problem for us to evaluate
12 these projects, because with the crude by rail
13 project proposal documents that we're evaluating,
14 they're not forthcoming with this information. We
15 see some evidence of a range we could be having
16 Bakken crude or Canadian tar sands, but none of
17 the project documents are specific.

18 In fact, when we do Public Records Act
19 requests to get further documentation, we're
20 getting lots of redacted documents and we're
21 having a tough time evaluating what the air
22 pollution consequences of these projects would be
23 for a lack of specificity around the crude oil
24 quality.

25 You know, one way around this is that we

1 think that the EIRs for these projects should
2 evaluate both scenarios. Bringing in Bakken, what
3 is the worst case scenario around the safety
4 considerations because it's more volatile? And
5 then what are the air quality consequences of
6 bringing in the heavier crude oil? We're seeing
7 both of those crude oils mentioned as
8 possibilities in a lot of the documentation and
9 most recently with the Valero draft EIR for their
10 crude by rail. We see a little bit of a
11 discussion of the Alaska North Slope lookalike
12 crude, or ANS lookalike crudes that's a blend of
13 Bakken and tar sands.

14 MR. RECHTSCHAFFEN: I'm wondering, and I
15 know you don't speak for all the individual
16 refineries, but I'm wondering if you have any
17 insight into that question?

18 MR. UMENHOFER: I was waiting for that.

19 MR. RECHTSCHAFFEN: Since you didn't have
20 any slides, (overlapping).

21 MR. UMENHOFER: The first thing I'll say
22 is that in the role that I serve, and in fact for
23 other folks in the industry, there are limits of
24 what we can talk about due to antitrust, but one
25 thing I can say is that with regard to -- and I'm

1 a CEQA expert, I'm a CEQA guy. I've been in the
2 environmental business for my whole career.

3 I think what's been talked about here is
4 very interesting and important elements of how is
5 information coming out in the proper way in the
6 CEQA process. So folks with the most information
7 of what's happening in a certain place are,
8 obviously, the owners, and in the industry we
9 can't talk amongst ourselves about that because
10 that's antitrust, and the agencies, and there has
11 to be some confidence in the agencies that you're
12 getting some information. But questions from the
13 public such as these are fair questions, and the
14 thing that I would say is that I hope and trust
15 that, as regulators you have a good handle on
16 that. I know individual operators are sincere in
17 what they're doing and sincere in providing the
18 information that they have.

19 Certainly, it is not uncommon in the CEQA
20 process when you don't know exactly where your
21 source is, is to characterize sources. The
22 question is, is that enough for you guys, and
23 that's an agency's responsibility to ferret that
24 out.

25 MR. RECHTSCHAFFEN: Thank you.

1 MR. ALEX: Tom. Is this on? Yeah? Tom,
2 my question is for you. I think you heard some of
3 the representatives from local agencies and local
4 governments express a number of frustrations, but
5 one of the most specific was about the lack of
6 funding to deal with emergency response, and I
7 wonder if WSPA is willing to support fees to
8 support efforts for local emergency planning and
9 response at the local level.

10 MR. UMENHOFER: I will happily take that
11 question back to the president of the WSPA and the
12 WSPA Board.

13 MR. ALEX: Thank you.

14 COMMISSIONER SCOTT: Okay, great. Well,
15 thank you again to our terrific panel who provided
16 some outlook from other organizations: Greg
17 Karras, Diane Bailey and Tom Umenhofer.

18 I'd like to go now to the relationship of
19 crude oil trends to environmental and energy
20 policies. Before I call up our first speaker, I
21 would like to remind folks that if you want to
22 make a comment, please talk to our public advisor.
23 She's up front, she has the blue cards, she'll
24 bring them up to us and that's how you get in the
25 cue for public comment. She's sitting right

1 outside the door.

2 Also, during the state presentation we
3 mentioned both the maps and the report and there's
4 copies of the report up there and the map is
5 available on the webpage.

6 So I would like to welcome Ryan McCarthy,
7 the Senior Policy Advisor from the California Air
8 Resources Board to talk to us about the
9 implications of climate policies on oil demand in
10 California.

11 Welcome, Ryan.

12 MR. MCCARTHY: Thank you very much. So
13 I'll be changing gears here a little bit and not
14 talking about oil by rail, but instead talking
15 about what we're doing from an energy,
16 environmental and climate perspective in
17 California and what it might mean for greenhouse
18 gas emissions in the transportation sector and oil
19 use in the state. What I'll be presenting is a
20 fairly simple analysis.

21 I want to clarify and be very frank up
22 front that this is not official ARB numbers that
23 will be used for any rulemaking, but instead sort
24 of some rough -- perhaps a little more refined
25 than back of the envelope or top of the bar

1 napkin, but maybe not too much more refined than
2 that -- numbers for, you know, what our policies
3 might translate to in terms of oil use in the
4 state and emissions, so I'm trying to give a sense
5 of where we're going.

6 Certainly, ARB through its ongoing air
7 quality and climate planning, and I know CEC and
8 their IEPR process and many other organizations, I
9 think, will be refining these numbers over time if
10 they haven't already. And I'll state now, and
11 probably again later, that we at ARB look forward
12 to working with CEC through the IEPR process this
13 year and next year to try to do just that and
14 refine some of these numbers and provide greater
15 clarity and insight into where we're headed.

16 So some initial context for the California
17 policy realm.

18 First of all, I think it's probably fair
19 to say that under the Brown Administration
20 greenhouse gas emissions have become an
21 overarching metric for a lot of what we're doing.
22 You know, when it comes to the electricity sector,
23 whether one agency's planning for a liability or
24 another energy efficiency or renewables, or in our
25 case greenhouse gas emissions, increasingly we're

1 working together better than we have before and
2 focusing on making sure that everything we do
3 individually also works collectively, and that
4 includes to reduce greenhouse emissions. We're
5 doing the same thing for transportation, and now
6 when we plan our cities and towns and streets
7 we're doing so with an eye towards not just, you
8 know, providing mobility but reducing greenhouse
9 gas emissions. And the same thing for air
10 quality.

11 The Scoping Plan and Update that the Air
12 Resource Board released this year builds on the
13 framework that we laid out in the first scoping
14 plan five years ago and calls for increasingly
15 doing this in all sectors, in water resources,
16 agriculture and everything else. So I think,
17 again, it's probably fair to say that greenhouse
18 gas emissions is really becoming an overarching
19 policy driver in the state. To that end, we
20 already have a number of greenhouse gas emission
21 goals.

22 We have economy-wide goals to reduce, or
23 laws to reduce emissions to 1990 levels by 2020
24 under AB 32. We also have goals to reduce
25 emissions to 1990 or to 80 percent below 1990

1 levels by 2050. That's an economy-wide goal set
2 by executive order as well as a transportation
3 sector-specific goal set by Governor Brown in an
4 executive order as well. And now we are beginning
5 to think about where to go in the midterm and what
6 appropriate target climates would be for, say,
7 2030 or some other midterm timeframe.

8 I think it's also important to state as
9 context that California is doing more -- Alan
10 Lloyd can correct me, but I believe that again it
11 would be fair to say that California has done more
12 and is doing more to reduce emissions of criteria
13 putting some greenhouse gas emissions and oil use
14 in the transportation sector, probably more than
15 anybody else in the world is doing. And we've
16 been doing that for decades and we're continuing
17 to do it.

18 That said, we know we're going to have to
19 do more to meet our ongoing climate goals and to
20 meet our air quality goals. So part of that
21 comprehensive framework we have is really, I think
22 we can say, the beginning of a success story,
23 especially for transportation or passenger
24 transportation.

25 In the passenger transportation sector we

1 have begun to -- we've built this framework where
2 we are targeting oil use and emissions from every
3 angle. We are dealing with the land use and
4 trying to bring things closer together and provide
5 mobility options to reduce the amount of driving
6 people have to do. We're building more efficient
7 vehicles and requiring more efficient conventional
8 vehicles. We are requiring zero emission vehicles
9 in increasing numbers and supporting efforts to
10 deploy zero emission vehicles and supporting
11 consumer experiences in zero emission vehicles
12 through a number of collaborative efforts, public
13 financing incentives and supporting infrastructure
14 and working with locals. We are dealing with
15 fuels and requiring cleaner fuels through the Low
16 Carbon Fuel Standard and through the Cap-and-Trade
17 Program, and I'm sure there's others as well.

18 So especially in passenger transportation
19 these policies are coming together, as I'll show
20 shortly, to really reduce emissions in a
21 significant way. They are also reducing costs for
22 consumers, and we expect that in 2020 the average
23 Californian will spend about \$400 less on fuel
24 than she does currently.

25 So, you know, the success is, I think we

1 can say -- well, we can say, California is
2 outpacing others, but it's not limited, these
3 trends of reducing oil use and emissions are not
4 limited just to California. It's a trend that is
5 now occurring throughout the developed world. Not
6 globally. Developing nations are outpacing or
7 more than offsetting the reductions in oil use and
8 emissions from the developed world. But in the
9 developed we have reached peak oil consumption and
10 we are seeing reduced emissions and reduced oil
11 use. And this isn't just fanciful thinking, but
12 this is what the oil companies are saying
13 themselves, you know, in the absence of any
14 additional policy or dramatic technology
15 development is that in the developed oil use and
16 emissions are going down. So the direction is
17 correct in the developed world. We certainly need
18 to do more to meet our climate challenges and we
19 need to accelerate progress further.

20 And I'll just say as sort of context for
21 some members I'll show later, is that Bloomberg
22 recently did an analysis of where California's
23 policies will translate to in terms of oil use
24 reductions and found about a 9 to 13 percent
25 reduction in, I believe that's just gasoline. I

1 don't think it should say "gasoline and diesel
2 use," but in gasoline use from our existing
3 policies by 2020 from, I think, 2014 levels was
4 their analysis.

5 So what we did, in something a little
6 slightly more complex than an envelope, but an
7 initial analysis where we looked at four
8 scenarios, and the four scenarios are listed here.

9 But the first one is sort of a counter-
10 factual, as they say in academic circles, where we
11 undo existing policies and look at what would just
12 happen for market forces if the state did not have
13 its suite of climate policies. Now, this scenario
14 does include federal greenhouse gas emission
15 standards and CAFE standards for the light-duty
16 vehicles, which is driving oil use down, but it
17 does not include any other state activities nor
18 does it include, I believe, the federal renewable
19 fuel standard.

20 The next, the existing state policy
21 scenario looks at just the suite of existing state
22 policies. As I mentioned SB 375 dealing with land
23 use, the low-carbon fuel standard, the rules
24 pushing zero-emission vehicles, heavy-duty vehicle
25 rules that exist at the federal level and that the

1 state has adopted as well. It does not look at
2 Cap-and-Trade or any potential incremental
3 reductions on oil use from Cap-and-Trade.

4 The next scenario is extended policies,
5 I'm calling it. This calls out, I guess just two
6 real key additional drivers that were identified
7 in the 2014 Scoping Plan Update. In that document
8 we called for extending existing gains in new
9 vehicle efficiency by about 5 percent per year.
10 That's what's being accomplished already on the
11 heavy-duty side. Over the next several years we
12 call for extending that and achieving similar
13 gains through 2025. And in terms of passenger
14 vehicles, extending current policies which will
15 achieve about 5 percent improvements in vehicle
16 greenhouse gas emissions through 2025, we call for
17 extending that through 2030. So that's one of the
18 big key policy drivers. The other that is
19 included in this scenario is extending the low-
20 carbon fuel standard to 2030. In the Scoping Plan
21 Update we mention a 15 to 20 percent reduction,
22 perhaps by 2030. I think what's modeled here is
23 an 18 percent reduction in 2030.

24 And then the final scenario reflects a
25 document that we developed at ARB in 2012 that we

1 called a Vision for Clean Air Analysis, and this
2 was looking at how you achieve air quality goals
3 as well as 2050 climate goals.

4 Something that I meant to mention in the
5 slide before but did not was air quality is a
6 driver, and there's federal rules for air quality
7 that California, despite all of its successes --
8 we've reduced all pollutants by about 75 to 90
9 percent over the last several decades, but we
10 still have a long way to go. We still have the
11 worst air quality in the country. And there's
12 federal air quality standards saying we have to
13 reduce emissions from vehicles. Well, the
14 implication is we have to reduce emissions from
15 heavy-duty vehicles and many sources by as much as
16 90 percent in many parts of the state over the
17 next 20 years. So that in itself can be a driver
18 that might be more powerful even or more
19 challenging than 2050 climate goals. And a lot of
20 the technologies to meet our air quality goals and
21 our climate goals are likely to be the same in the
22 transportation sector, and in fact they'll have to
23 be the same if we're going to try to meet both of
24 them.

25 So the scenario represented here depicts

1 that scenario that we developed in 2012. It's
2 only one way, of course, to try to meet these
3 goals. In fact, it did not successfully meet the
4 air quality goals. It met them a few years late,
5 but it really dramatically pushes on zero emission
6 vehicles and clean fuels to try to meet those
7 goals. We're updating that analysis now and we'll
8 roll out some new scenarios on that a little bit
9 later this year.

10 So this is just an overarching view of
11 some of the results, how they translate to total
12 crude oil demand in the state. So this includes,
13 or this chart anyways includes all crude oil
14 basically going into refineries to supply
15 California demand as well as an existing set of
16 exports. I think 10 or 11 percent of current
17 refinery product right now is exported to other
18 states. So this keeps that export fraction as
19 well as including jet fuel and other products like
20 asphalt and lubricants that come from refineries.

21 Later I'll look at just the gasoline and
22 diesel use in the reduction in gasoline and diesel
23 use or petroleum for in-state gasoline and diesel
24 use. It's more dramatic than shown here, because
25 our policies are more directly targeting those.

1 But you'll see, you know, in all the scenarios
2 including the counter-factual where we undo our
3 policies, we're reducing oil use, and in some of
4 them, you know, we're reducing it fairly
5 significantly. Perhaps not enough to where we
6 need to go, but it's a good start.

7 To translate these results into greenhouse
8 gas emissions and specifically 1990 emissions,
9 which I think is a good barometer and a common
10 barometer for progress to 2050, a little bit of
11 background. I won't venture to speculate on what
12 appropriate targets are in 2030, but I'll give a
13 couple data points.

14 One is if you just draw a line connecting
15 2020 to 2050, a straight line, assuming our
16 emissions in 2020 are 1990 levels as required by
17 AB 32, in 2030 your emissions would be 27 percent
18 below 1990 levels. So that's sort of one data
19 point.

20 Another is, you know, there's an
21 increasing focus in the scientific community on
22 this idea of a global carbon budget and that we
23 can only emit so much carbon if we want to have
24 some percentage chance of staying below two
25 degrees global warming, which folks have basically

1 agreed upon as global targets. And how you
2 attribute a global carbon budget by countries let
3 alone by state is, you know, challenging, and you
4 could do so in a number of ways, but I'm familiar
5 with two studies that have tried to do it in a
6 manner that they deem equitable. And those
7 studies basically agree that in the U.S. you would
8 want emissions to be, you know, 36 to 38 percent
9 below 1990 levels by 2030. So that's sort of
10 another data point that we can consider.

11 And when we look at these scenarios we see
12 that existing policies are not going to get there,
13 again so for on-road GHG emissions and passenger
14 vehicle emissions. So the on-road GHG emissions
15 is just gasoline and diesel, so now I'm ignoring
16 sort of the other refinery products in other
17 sectors like aviation that California has less of
18 an ability to impact and just looking at our
19 policies in terms of gasoline and diesel.

20 But we're not quite there from our
21 existing policies for the on-road sector, but we
22 are about on the path to 2050 for the passenger
23 vehicle sector from our existing policies on that
24 straight-line path. So that's good progress. The
25 extended policies puts all on-road transportation

1 about on that straight-line path to 2050 and
2 begins to get your passenger vehicles pretty close
3 to that climate stabilization or that accelerated
4 pathway.

5 Now, neither of those scenarios are
6 anywhere close to where the Vision for Clean Air
7 Analysis gets you. And that case, I think,
8 there's about a 60 percent reduction. And so to
9 the extent that is at least somewhat indicative of
10 what we might have to do to meet our air quality
11 goals, you can imagine needing to do a lot more
12 than we show here.

13 And one other note I'll emphasize here is
14 that with the existing policies we're doing a lot,
15 especially on the passenger transportation side,
16 but diesel use is still expected to increase. And
17 we have not -- you know, we need to replicate
18 similar successes we have through existing
19 policies on the passenger side, we need to do that
20 on the heavy-duty side, and the proposed policies
21 in the Scoping Plan will reduce that and begin to
22 get reductions in the heavy-duty side as well.

23 I think it's important to emphasize that,
24 you know, with all the unknowns that we've
25 discussed today, we don't know where our oil's

1 going to come from. We don't know what type of
2 biofuels might become market winners. We don't
3 know how many natural gas trucks we're going to
4 have. We don't know how many zero emission
5 vehicles we're going to have. But we do have some
6 certainty because of our policies of what
7 emissions are going to be.

8 And, you know, the two key performance-
9 based policies that we talk about are the Low
10 Carbon Fuel Standard and the Cap-and-Trade
11 Program. And the Low Carbon Fuel Standard says
12 that we have to reduce the carbon intensity of our
13 fuel by ten percent by 2020. And so, you know, if
14 oil companies want to bring in more Canadian crude
15 oil, which has a higher carbon intensity, they
16 create extra deficits and they have to offset that
17 basically with either cleaner alternatives than
18 they would've used otherwise or a higher volume
19 of, well, basically more biofuels or electricity
20 or hydrogen.

21 So we know that, you know, regardless of
22 where our oil's coming from, regardless of what
23 the mix of fuels looks like, we know that the
24 average carbon intensity of our fuel, whether it's
25 produced in state or out of state, is going to be

1 a certain value and it's going to be declining and
2 getting cleaner.

3 The Cap-and-Trade Program deals with
4 just emissions in the state, but it sets a limit
5 and says that regardless of how much we're
6 driving, regardless of how much oil we're
7 producing or refining in the state and regardless
8 of how much economic activity we have really in
9 any sector, our emissions are not going to exceed
10 a certain level. So that provides certainty on
11 total emissions in the state whereas the other
12 provides certainty on the life cycle embedded
13 emissions that is in our fuel mix, whether it's
14 coming from in state or out of state.

15 So they both provide flexibility for
16 entities that need to comply to do so in the way
17 that they see most fit. And for the oil companies
18 that means they can either sell more oil or less
19 oil as they so desire. If they want to sell oil
20 with a higher carbon intensity, then they can do
21 so, but that means they have to sell less of it
22 and use more biofuels or other cleaner
23 alternatives.

24 Alternatively, they can clean up oil and
25 sell more oil if they want. We have this

1 provision in the Low Carbon Fuel Standard called
2 the innovative methods pathway where if they use
3 carbon capture and sequestration or solar steam
4 generation or biomass in the production of oil to
5 reduce emissions they get credit for that. And so
6 they can, you know, comply while using relatively
7 more oil than they would've otherwise.

8 This just sort of depicts that
9 graphically, that you can imagine a range of
10 demand for oil or supply of oil while still
11 getting the same compliance with our policies.
12 This is not bounding, you could actually imagine a
13 greater range, but this is sort of one sample that
14 shows a few reasonable compliance pathways.

15 So I think my time's up and I won't go
16 through these too much, because I think I've hit
17 on them already. But I will touch on this last
18 one.

19 You know, if you just imagine what level
20 of oil use we can have in 2030 to meet, say, those
21 two targets that I mentioned, the 27 percent or
22 the 37 percent reductions. In 1990 we used about
23 15 billion gallons of petroleum-based gasoline and
24 diesel, so you can just -- at least as an upper
25 limit you can just subtract or divide by or

1 multiply, I guess, those fractions. So the
2 straight line, if you want to just reduce oil use
3 by 27 percent, that would set a cap on the total
4 amount of oil you see you could have while meeting
5 that target and that would be about 11 billion
6 gallons. Alternatively, the lower one is 9.5
7 billion gallons. So those just give us, you know,
8 two other sort of benchmarks for where we might
9 want to be in 2030.

10 And that's all, thank you.

11 COMMISSIONER SCOTT: Thank you, Ryan, for
12 that excellent and informative presentation.

13 We will now turn to our closing
14 presentation, which will be done by Dr. Alan
15 Lloyd, President Emeritus of the International
16 Council on Clean Transportation. And he's going
17 to speak to us about the impact of climate change
18 and petroleum displacement policies and programs.

19 Welcome, Dr. Lloyd.

20 DR. LLOYD: Thank you very much,
21 Commissioner Scott. Again, it's a pleasure to be
22 here.

23 It's very interesting as we reflect back
24 on, not many years ago, we were wishing that we
25 could get off Middle-Eastern oil, have energy

1 independence from that oil. Today we're saying,
2 we now have a glut of oil, but look at the problem
3 it is creating. So I have a solution to some of
4 that. Again, it's a real pleasure to be here with
5 distinguished workshop participants. What I will
6 focus on is basically trying to get off petroleum,
7 and is that feasible and is the timeframe
8 feasible?

9 So while we get set up here, I recognize
10 the time here, and so, yeah, I'll finish by five
11 o'clock or before.

12 So I think the need to get off petroleum,
13 I'll identify that in terms of climate. Ryan did
14 a good job of explaining that. We talk about two
15 degrees centigrade, but let's face it, are we
16 being honest when we see what's happening in the
17 rest of the world and over here. It's only
18 recently the administration's begun to attack the
19 problem, but it's not really very much.
20 California again, has that leadership there, and
21 thank goodness for California; otherwise there
22 would be nothing there. So we have to realize
23 we've got to do more and less.

24 Air pollution I emphasize, and I'm pleased
25 that Ryan did as well, because people overlook

1 that. We've never met the targets for air quality
2 and attainment of air quality standards since the
3 Muskie law, we've always delayed that, and now for
4 ozone and PM, that's back in the 2020s/2030.

5 The other thing that people have to
6 recognize is the air quality standards decrease as
7 we learn more information on the health-related
8 air quality standards. But also, the global
9 background of all of these are increasing, so
10 ozone is increasing, PM is increasing. So the
11 margin with which you can basically pollute is
12 growing smaller, so that has to be taken into
13 account, which means that from the air quality
14 plan that Ryan talked about, any time you combust
15 something it creates a problem because you're
16 creating NOx and you're typically creating PM.
17 Now, you can control that to the maximum standard,
18 but you always have degradation when you get that
19 into place.

20 The other drive I think to get off
21 petroleum is AB 32, and the likely successor
22 leading out at 2050. Ryan's covered that.

23 The Obama Carbon Pollution Standards,
24 again, I think that's a very important piece of
25 that or part of it.

1 And then as we've seen, the increasing
2 costs of petroleum and the increasing costs of
3 dealing with petroleum.

4 So with the consumption of oil, obviously
5 California is a major consumer of oil and gas, but
6 that's decreasing, as we saw, that part of it, so
7 that's the good news and that'll continue. But,
8 on the other hand, when we look globally you can
9 see these major markets in the number of cars.
10 The U.S. is by far the most important in terms of
11 the millions of vehicles, but if you look at the
12 EU-27 and then you look at the rapid growing in
13 China and other areas, it gives you an idea that,
14 while it may be going down in California,
15 worldwide you have this stock which basically will
16 expand the desire for petroleum.

17 And if you look at something similar on
18 the heavy-duty vehicle fleet, similarly the
19 numbers are down there, but again you can see this
20 is U.S. and the EU, but also look at the higher
21 number in China compared to the U.S. even, so
22 demand is not going to go away very quickly.

23 Now, the good news is, as we heard, that
24 the fuel economy standards are beginning to take
25 effect. Europe led the way for that with

1 passenger vehicles, now California and the U.S. is
2 doing that and that's also being expanded into the
3 heavy-duty side, as Ryan was stating. But the
4 developing world is still showing strong growth
5 and they are acting in some areas, but some
6 countries not as fast as others.

7 This is an ICCT one, which shows you
8 typically what has been happening. But you can
9 see in 2009 basically only Japan and the EU were
10 operating on CO2 standards, and then you can see
11 the rest of the world and U.S. taking the lead
12 from California. Remember, U.S. here is CO2,
13 California was CO2 equivalent because we couldn't
14 control fuel economy standards, but you can see it
15 going down pretty steeply over a period of time or
16 to 2025 there. But you can see how far that's
17 away from the axis, and if you want to get down to
18 basically two degrees, you're going to get down to
19 around probably lower than 50, so quite a ways to
20 go in that part of it.

21 But I think what you see here is some of
22 the countries are already transitioning to low-
23 carbon vehicles. And this shows some data from an
24 ICCT study carried out by some of the staff in
25 Europe, and what this shows is the market share of

1 electric cars in comparison to total sales in
2 2012/2013. You will note there, and the intent of
3 this study, by the way, was to look at the impact
4 of financial incentives on new car sales for
5 electric vehicles. You can see, you know,
6 California is number three there. Of course, it
7 far outweighs the others in terms of total
8 numbers.

9 But the interesting thing about that part
10 of it was that one major inclusion, incentives are
11 important, but not the only thing, because
12 incentives for example are to 55 percent of the
13 base price in Norway, which accounts for the high
14 volume, a high percentage. Netherlands, 75
15 percent. The UK, they've got 5,000 pound of
16 vehicle, which is significant, but it has hardly
17 any impact you look at UK. Similar for Germany.
18 So the bottom line for policy makers, incentives
19 are important, necessary, but not sufficient.

20 Now we move into one of the California
21 scenarios. This is just a scenario that are
22 updated all the time, but this just shows by 2050
23 the on-road vehicle programs, and this has guided
24 some of the California thinking in terms of why do
25 you need to look at some of the electric drive

1 piece there.

2 In order to go do that, also, you have to
3 look at some of the costs there. And some of my
4 statements here come out from a study that David
5 Green did for us from Oak Ridge National Lab in
6 that the net costs for this are incurred for about
7 a decade. And we'll see some more of that.

8 Incentives are initially large but are
9 generally unnecessary after 2025. You can see it
10 by the decade. Some of the caveats: Incentives
11 need to be properly timed; an estimate provided
12 for total cost, but no need for entire incremental
13 cost because the car manufacturers put money into
14 that as well.

15 Again, out of this study comes some
16 observations in general. In general, when you are
17 looking at the penetration there, fuel cells
18 achieve higher deployment levels than battery
19 electric vehicles. That's over the longer term,
20 and the only reason for that was because you can
21 get fuel cell vehicles into the heavier side,
22 heavier vehicles, where it's more difficult to get
23 that for all batteries.

24 Most scenarios result in a mix of
25 powertrains, but given adequate infrastructure the

1 larger shares go to fuel cell vehicles, but
2 without advanced provision of hydrogen
3 infrastructure in California, fuel cell deployment
4 is derailed nationwide. Now, of course, the good
5 news is after this comment, is CEC and the
6 Legislature stepped up on both in terms of
7 hydrogen infrastructure, but also for their
8 electric vehicle side, for the plug-in side there.

9 Plug-in hybrid electric vehicles are a
10 transitional technology and do not achieve the
11 ongoing deployment rate. That may be somewhat
12 controversial and I should give you the reason for
13 that later.

14 Petroleum prices do not strongly affect
15 the pace of the transition, because once the
16 vehicle's highly efficient, that has less impact
17 on consumer choices.

18 I mentioned here these are the bases for
19 the National Academy of Sciences study, some new
20 cost curves which I'll show you here, and then the
21 same model is used by David Green. Again, I
22 stress this is a model, and obviously as the
23 discussion this morning in terms of the future,
24 you can only project certain things. These are
25 scenarios with lots of assumptions, but this is

1 one of the things that gives you some confidence
2 that electric drive over the time period can be
3 cost competitive.

4 So about the 2035-2040 time period you can
5 see there that battery electric vehicles, fuel
6 cell electric vehicles in high volume, are less
7 expensive than conventional IC engines. Because
8 the IC engine is getting more efficient, you have
9 to clean it up, but it is costing more, whereas
10 the trend is going the other way with batteries
11 and fuel cells. The other part, if you look at
12 the green line, the plug-in hybrids will always be
13 more expensive than those two because you have two
14 power plants. Important in terms of looking at
15 the sustainability.

16 So I think the thing here is also, given
17 the expected progress, you can see there's strong
18 public policies. Your benefits of the transition
19 to electric drive appear to be giving you about
20 ten percent the benefits compared to what the
21 investments would be. And that's some stuff that
22 we'd report about a year ago. And you can see,
23 looking at the impact of the net present value of
24 \$190 to \$290 billion for California and the
25 Section 177 states, based on all the potential

1 benefits you get there, which are documented in
2 the David Green study.

3 Now, the good news is that California is
4 very well-equipped to handle this and set up for
5 this transition. And it's more than a transition,
6 because essentially this is a revolution going
7 from the combustion to the electric drive.

8 And, of course, one of the major drivers
9 here, the Governor's ZEV Action Plan. And we've
10 got the Governor's Office well represented here
11 today on the dais. And that's a very important
12 driver for coordinated action in this area. And
13 we can see, as we've seen happening recently, the
14 great example of Tesla close to home here is
15 leading the way at the higher end, but also
16 leading the way in terms of battery development.

17 And then you've got a public-private
18 partnership here with the plug-in electric vehicle
19 collaborative with a multi-stakeholder effort.
20 Again, providing the type of leadership and
21 coordination that has been talked about today in
22 terms of oil by rail. Everybody working together
23 with a common end product.

24 Similarly for the fuel cell partnership we
25 get all the stakeholders. I will say it started

1 off with all the stakeholders, then the oil
2 companies walked away, so this is most of those
3 involved there.

4 So I think the other key part of this is
5 that without de-carbonizing the whole system then
6 you know there's no point in going to electric
7 drive. So you require renewable electricity for
8 ZEVs and the hydrogen for fuel cell vehicles.
9 California has the 30 percent requirement going up
10 to probably 50 percent.

11 And the timing is right to look at these,
12 because the future trend is to distributed
13 generation, self-generation and battery storage.
14 Some of that is driven by the need to get
15 renewable energy, but it's also a need to get
16 together for things like terrorism. You don't
17 want everything concentrated in individual
18 substations. Which again nothing was discussed
19 today, at least when I was in the room, about the
20 potential for terrorism attack on all of these oil
21 cars coming through California. Something else
22 that has to be put on the agenda.

23 I think the potential to get off the grid
24 completely for ZEVs is very feasible and should be
25 encouraged because of the target with renewable

1 energy. And then the power to gas approach for
2 restoring renewable energy through hydrogen
3 allows, in fact, the hydrogen to be produced or to
4 decarbonizes the natural gas supply.

5 So in summary, I think that, you know,
6 public health, the air quality, climate concerns
7 demand the ultimate elimination of carbon in most
8 combustion. The transition will take time, and
9 natural gas can and will play a role during this
10 time. It's a significant de-carbonization there.

11 The ultimate goal of electric drive with
12 renewables is necessary and I think it's feasible.
13 It takes advantage of reducing costs and
14 increasing performance of both ZEVs and fuel
15 cells, trend to DG and self-generation utilizing
16 competitively available renewables. So while the
17 transition will require time and investment, it is
18 viable, necessary and benefits are about ten times
19 the investment. And I think again, on parts of
20 this, as I've indicated, California is well ahead
21 of everybody else. And you can expect that
22 leadership to continue. Thank you.

23 COMMISSIONER SCOTT: Thank you so very
24 much, Dr. Lloyd. We really appreciate your
25 wisdom.

1 And thank you to both Ryan and Dr. Lloyd
2 for their thoughtful speeches. I think it's
3 incredibly helpful to put today's conversation
4 into sort of the broader context and look at it
5 through the window that they presented.

6 That wraps up our formal presentations for
7 today. I just want to say a hearty thank you to
8 all of our speakers. I really appreciate their
9 indulgence with our yellow and red cards
10 throughout today. It was an ambitious day, we
11 have lots of great information, lots of speakers
12 who know a lot of things and since they indulged
13 us we were able to get through all of that
14 information. The details of it, of course, are on
15 the webpage, so you can look on our IEPR webpage
16 to see the presentations and get more detail.

17 We are going to turn to the public comment
18 portion of the day and I have some blue cards here
19 in my hand. If you also have been wanting to
20 speak today, please be sure that you fill out a
21 blue card with our public advisor. She will run
22 it down here to me and that's how we know to call
23 on you.

24 Our first person is Vice Mayor Linda Maio
25 from the City of Berkeley.

1 MS. MAIO: Thank you, I (inaudible) Mr.
2 Umenhofer, because I actually wanted to ask him to
3 stay for my comments.

4 I wanted to thank you so much for this
5 presentation. I came out of it -- I've been here
6 all day and what I know is that there's a lot I
7 don't know and a lot that we need to know. I was
8 very heartened by the last speakers. Berkeley has
9 a climate action plan of its own and we're working
10 very heartily in that direction, but I'm going to
11 confine my remarks now to public safety and say
12 that I don't have to redo what Supervisor Ray
13 outlined. We're very concerned on that level with
14 what we don't know and what's planned to come
15 through our cities. I'm working with other cities
16 along the route. And I will say that we need to
17 know all of the hazards.

18 And Mr. Umenhofer, it's not okay for you
19 to be shipping this volatile hazardous crude in
20 DOT-111 cars. It simply should not happen.
21 You're going through cities where we have daycare
22 centers, shopping centers. The Amtrak line
23 actually goes right by the Bayer Pharmaceutical
24 Company, it goes right through Jack London Square.
25 And these cars are not up to the volatile

1 hazardous crude that the fuel companies are
2 shipping. And so you can leave now as far as I'm
3 concerned, so I wanted to just let you know that
4 it's simply not okay.

5 Our job as local elected officials is to
6 get the word out, because most cities along the
7 routes have no idea what they're exposed to. Not
8 at all. And so I'm working with Emeryville,
9 Fremont, Sacramento, Davis. We will want a
10 presence, have a presence at the California League
11 of Cities meeting in September to basically
12 educate and organize our cities regarding this
13 planned increase uptick and the accident rate
14 that's guaranteed be concomitant with that. We
15 have been really pleased to work with the CPUC and
16 all the other agencies. Hazardous response is
17 good, but it's not enough. It happens after the
18 fact and we know we have to get there a whole lot
19 sooner than that.

20 So I think my main news is that we'll be
21 looking at the California League of Cities meeting
22 to actually get a lot more interest and energy
23 regarding responses from our cities that will
24 affected. Thank you.

25 MR. RECHTSCHAFFEN: Can I ask you a

1 question, Vice Mayor? Are you working with other
2 cities on the legislative efforts to raise
3 additional fees for emergency responders that are
4 pending now in the next couple of months?

5 MS. MAIO: Actually until today I heard
6 what monies had been put aside in the budget
7 etcetera. We can work more on emergency response
8 certainly, and I think it's critical at the local
9 level, because we have to be prepared.

10 MR. RECHTSCHAFFEN: I just mentioned it,
11 because there's an additional proposal that --
12 there's an additional set of proposals that
13 Assemblywoman Skinner mentioned, and Chief
14 Campbell mentioned and others, that would help
15 supplement some of the gaps that the Office of
16 Emergency Services would --

17 MS. MAIO: Well, we work very closely with
18 Nancy Skinner, so we'll be working on that as
19 well. Thank you.

20 COMMISSIONER SCOTT: Thank you. Our next
21 person is Kriss Worthington from the Berkeley City
22 Council.

23 UNIDENTIFIED SPEAKER: He's not here.

24 COMMISSIONER SCOTT: Kriss is not here?
25 Okay.

1 We will then go to David F. Gassman
2 (phonetic) from the Green Action for Health and
3 Environmental Justice. Did everyone leave? Okay.
4 I will keep working my way through just in case
5 maybe they're out in the hallway and come back.

6 Our next commenter is Dr. Henry Clark from
7 West County Toxics Coalition.

8 DR. CLARK: Shall I come to the mic?

9 COMMISSIONER SCOTT: Yes, please come to
10 the mic. And also, I should mention if you would,
11 if you have a business card or could please spell
12 your name for our court reporter, so that it's
13 correct in the transcript that would be very
14 helpful.

15 DR. CLARK: Dr. Henry Clark, Executive
16 Director of the West County Toxics Coalition based
17 in Richmond, also a member of Contra Costa County
18 Hazardous Materials Commission and a council
19 member of the North Richmond Municipal Advisory
20 Council.

21 Per the safety information that was
22 presented today, but this particular issue about
23 crude by rail is a issue that has hit my hometown
24 of Richmond and West County Coalition. And
25 residents are addressed this issue now as it

1 relates to the Kinder Morgan facility there in
2 Richmond.

3 First of all, these issues of who's at
4 risk. You look at who's at risk, you know, a lot
5 of people may not be familiar with the geography
6 or the demographics, you just say that communities
7 in Richmond or San Luis Obispo or whatever. But
8 the bottom line is that in my community, and most
9 what we call involvement with justice communities
10 or communities that are disproportionately
11 impacted by risks from refineries and chemical
12 companies and railroads, those are communities of
13 color primarily. Like in Richmond area where
14 there's a 70 to 75 percent of the population is
15 Afro-Americans and 20 to 25 percent of the
16 population live below the property line.

17 These type of demographic statistics have
18 been documented on a national level as well as
19 international level. The first study called
20 "Toxic Waste and Race in the United States" by the
21 United Church of Christ, that documented where
22 landfills are located and in this same pattern in
23 terms of the executive order on environmental
24 justice that former President Clinton signed.
25 Executive Order 12898, which basically states that

1 no people or community should be
2 disproportionately impacted by environmental
3 policy. Well, that's great after the fact, but
4 the fact is that many communities like mine
5 throughout the country is already
6 disproportionately impacted.

7 And now this recent Executive Order, I
8 believe 13650 by President Obama on chemical
9 safety and rail transport, here again we're
10 talking about the same people, the same
11 communities that are already disproportionately
12 impacted.

13 And I don't believe by no stretch of the
14 imagination, and nor does the environmental
15 justice movement that we are part of and pretty
16 much one of the founding members of, believe that
17 is no accident that our communities happen to be
18 disproportionately impacted in the first place,
19 period. And continues to do so, yet we talk about
20 doing something about it, you know, and looking at
21 cumulative impacts. And here now we have a deal
22 with more fuel to the fire with the risk by this
23 highly explosive crude by rail.

24 And then you say that you want to help us,
25 you know? And we sit on all these committees and

1 so forth and then you say, "No more
2 disproportionate impact, yet you come out with
3 some Cap-and-Trade nonsense that basically allows
4 polluting trade in while it would allow emissions
5 in greenhouse gases say, in Richmond, from the
6 Chevron Refinery to increase and more fuel to the
7 fire and disproportionately impact us that you
8 said you're trying to stop. Yet it allowed that
9 to happen on the Cap-and-Trade.

10 I mean, you talk like Native Americans
11 said a long time ago. "You end up talking out of
12 both sides of your mouth, period." What are you
13 trying to do? Are you trying to stop this
14 disproportionate impact or are is just some type
15 of shell game?

16 Well, I'll just conclude by this saying.
17 You know, if the government won't protect us, the
18 people will. That's why West County Toxics
19 Coalition organized a demonstration out there
20 about two week ago at Kinder Morgan (inaudible)
21 and we will continue to do so. There should be a
22 moratorium on these facilities and until the
23 government finds out what is causing these
24 explosions and putting people at risk and it needs
25 to be stopped. And if the government don't, the

1 people will, and that's what the West County
2 Toxics Coalition is all about.

3 The people will stop those trains from
4 rolling and putting our community at risk until
5 the government gets off its behind and do some
6 real protection of our community. Thank you.

7 COMMISSIONER SCOTT: Thank you, Dr. Clark.

8 We'll go on now to Kathy Kerridge for -- I
9 can't read the -- Benicia, I'm sorry, Benicians
10 for a Safe and Healthy Community. And I'd like to
11 ask, we do have a three-minute comment period for
12 folks to speak to make sure we get to everyone.
13 So if you would all please respect that we would
14 appreciate it. Please, go ahead.

15 MS. KERRIDGE: Hi. I'm with Benicians for
16 a Safe and Healthy Community. As you may know,
17 we're opposed to Valero building their crude by
18 rail project in Benicia.

19 Today was really informative. I'm glad
20 you held it. What I see from all the
21 presentations today is that there's a great deal
22 of risk, both in terms of population and natural
23 resources from crude by rail, yet we have little
24 to gain. The oil companies have a tremendous to
25 gain when you're talking about \$25 barrel

1 discount. And Valero's talking about bringing in
2 70,000 barrels a day that's a huge amount of
3 money. That's about \$1.7 million a day that the
4 refineries are going to be gaining, but it's
5 putting my community at risk and every community
6 along the rails at risk.

7 There are regulations that are being
8 promulgated or being proposed. The Department of
9 Transportation has known since 1991 that this I-
10 111 rail cars are dangerous and insufficient for
11 the things they're carrying. Are we going to be
12 having these facilities in our community while
13 we're spending the next 20 years trying to get
14 these rail cars to be safe? That's unacceptable.
15 I don't think we should build any of these
16 facilities until we have guaranteed safety, until
17 we know what's coming down the pipe, and until we
18 can regulate it.

19 The Hazmat teams are not there to deal
20 with it. And frankly, I find it a little
21 depressing that that's what we're talking about.
22 How we're going to clean up after the explosions
23 happen, after the derailments happen. Well, if
24 you're talking about Tar Sands it's too late. We
25 can't clean that stuff up. If you're talking

1 about Bakken crude exploding, by the time it
2 explodes you could've had a catastrophe.

3 If a train is derailed going around the
4 curve in Davis that's right next to their
5 downtown. It's going right through Berkeley,
6 right through Emeryville. It's going to be going
7 right through within half a mile of elementary
8 schools in my own community. Right through our
9 industrial park.

10 We don't need this. I don't see anybody
11 saying we don't have enough oil right now, right
12 here in California. Our consumption is declining.
13 This crude by rail is not good for anyone in
14 California except for the refineries. I think you
15 need to put a moratorium and stop these local
16 projects from happening until we can do it safely.

17 The final speakers were very hopeful,
18 because I think they really show that we are in
19 the process of transitioning away from fossil
20 fuels. And when we're faced with oil that's as
21 dangerous and as risky to our community as this
22 oil is, it just means we need to be emphasizing
23 not how are we going to clean up when things
24 explode, but how we're going to move into the next
25 transition of energy production.

1 Last year I had a Christmas party, no one
2 came in an electric car. This year, three people
3 did. Thank you.

4 COMMISSIONER SCOTT: Thank you, very much.
5 If you would make sure that the --

6 MS. KERRIDGE: One final thing, we are in
7 the process of reviewing a draft environmental
8 impact report in Benicia. If you are concerned.
9 If you live anywhere a railroad track that's going
10 to be -- a train that's going to be going to
11 Benicia, please get your comments in by August
12 1st. Thank you.

13 COMMISSIONER SCOTT: Thank you. Please
14 make sure too, that the court reporter gets a
15 business card or knows how to spell your name, so
16 that they get it right for the transcript.

17 I have heard that Kriss Worthington is
18 here, from the Berkeley City Council, so I'd like
19 to invite Kriss Worthington to please come and
20 give some remarks, give a public comment.

21 MR. WORTHINGTON: Well, first thank you
22 very much for being the patient and persistent
23 panelists who stayed all day and listened for
24 hours and hours cooped up in this room without any
25 natural sunlight. I can assure you that once you

1 walk out the door you'll be in the heart and soul
2 of Berkeley, the arts district, the gourmet
3 ghetto. And there's many great restaurants within
4 a block or two if you want to stick around
5 Berkeley and enjoy the culture of Berkeley.

6 In the meantime I came to join
7 Councilmember Maio, who spoke earlier, in thanking
8 you for your work so far. And encouraging you to
9 have the vision and the commitment to see this is
10 a giant concern in our communities and needs
11 massive attention at your levels of jurisdiction.
12 You know, yes cities can try to do what we can do
13 to take steps, but generally we have almost no
14 jurisdiction over the important policy areas.

15 We have examples happening around the
16 country. Governor Cuomo has adopted many
17 directions to many state agencies strengthening
18 his state's oversight of shipments of petroleum
19 products that really give us a direction of some
20 possible ways that we can move forward in
21 California. The NTSB has pointed out a whole
22 bunch of things that need to be addressed by
23 federal agencies, so I hope that we can count on
24 our governor, who has a long track record of
25 concern about consumer issues and environmental

1 issues, to live up to his legacy from his past
2 careers and take serious action on this.

3 And I know that we can count on your
4 Commission to work very closely with all of our
5 communities and with the legislature to come up
6 with real-world, practical steps that we can take
7 to address these concerns. We can't wait until
8 there's a giant media barrage of, you know,
9 drastic horrible things happening here in our
10 vicinity. We've already started to see those
11 happen in Canada and other parts of the United
12 States, so we need to craft careful legislation
13 and policy regulations at your level.

14 Thank you very much for committing your
15 day to being here and starting the process to move
16 in that direction. Thank you.

17 COMMISSIONER SCOTT: Thank you,
18 Councilmember Worthington.

19 Our next commenter is Paul W. Rea.

20 MR. REA: I'll keep it brief. I want to
21 particularly riff on the things that have been
22 said in the last hour or so by Caren Ray, Diane
23 Bailey, Greg Karras, Henry Clark and others.

24 Basically, what the question seems to be,
25 why would we want to just lay down in front of

1 this oil juggernaut and not resist? Yes, we can
2 say as cities or citizens we don't have the power,
3 but really we do. If we lit a fire under Jerry
4 Brown we'd get some action and some pushback
5 against the federal agencies that hold the real
6 power here.

7 I'm wondering too, if we just admitted
8 that these I-111 tank cars are hopelessly outmoded
9 and just refused to let this thing go forward
10 until we have a whole new fleet of safe tank cars.
11 We know what the new ones look like. The
12 railroads are still making the I-111s as we speak.
13 They're not serious about upgrading their rolling
14 stock in order to have safer railroads.

15 And more broadly, just because new
16 technologies or new discoveries of fossil fuels
17 have been made, in other words of Tar Sands
18 fracking and so forth, why should we let Big Oil
19 just run over us and send a tidal wave of gas and
20 oil into California? Or anywhere else for that
21 matter. Are we just going to let new
22 technological developments run the way we live and
23 increase risk to all of ourselves? I don't think
24 so.

25 More broadly, I guess I'd like to just ask

1 a question. How many of you consider yourself
2 climate deniers? Ah-hah, I didn't think there'd
3 be many in the room. Okay. So I think we can
4 assume that intellectually, at least, you believe
5 that climate change is for real. That we humans
6 are causing a climate crisis and yet, and yet most
7 of us and I include myself sitting over there
8 taking notes all day, sat there and didn't raise
9 any questions. Sat there as though we didn't
10 believe that unleashing all of this fossil fuel is
11 not going to exacerbate the already dire situation
12 of our climate.

13 What are we thinking just sitting
14 passively like this as though we were all climate
15 deniers? I really urge you to start getting
16 active on this, supporting the people and we --
17 some of them are right in this room who are
18 resisting this. We've really got to do this. If
19 we lose it, if all of this oil and coal and gas is
20 not left in the ground, if all of this stuff that
21 can be mined and shipped, is mined and shipped,
22 we're cooked folks. We're cooked. Thank you.

23 COMMISSIONER SCOTT: Thank you. Our --

24 UNIDENTIFIED SPEAKER: (Inaudible)

25 COMMISSIONER SCOTT: He's right there,

1 thank you.

2 Our next commenter is Nafiah Muhammad.

3 MS. MUHAMMAD: Good afternoon. My name is
4 Nafiah Muhammad. I will be graduating next year
5 from Mills College with a degree in Political,
6 Legal and Economic Analyst and a minor in
7 Environmental Studies.

8 However, I believe my qualification for
9 standing before you all today is that I am 19-
10 year-old resident of California who hopes to
11 continue to reside in an environmentally-sound
12 California in 50, 60, 70 years. And maybe this
13 comes from my educational background or maybe just
14 my own personal opinions, but my concern with this
15 whole thing is, is this truly going to be worth
16 it? And I don't mean worth it to the oil
17 companies, because I was raised in Berkeley and
18 have some slightly opinions about oil companies.

19 But is this going to be worth it to all of
20 us and to, presumably, your children and your
21 grandchildren? Is this actually going to be worth
22 it? And by worth it I don't just mean
23 economically, though economically you really
24 should think about whether or not this is worth
25 it. Think about the amount of money that is going

1 to go into setting up these railroads, into
2 setting up these railroad cars, into training
3 these Hazmat teams into cleaning up afterwards.
4 And cleaning up afterwards and years afterwards
5 still dealing with the effects of this. Is it
6 going to be economically to anyone besides the oil
7 companies?

8 And is it going to be environmentally
9 worth it? Last semester I did an analysis of a
10 draft I that came out in February for the
11 Peninsula Corridor Electrification Project in
12 which Caltrain is actually trying to convert its
13 trains to run from San Jose to San Francisco on
14 electricity. The number of electric and hybrid
15 vehicles is going up. Our oil consumption is
16 going down, so how is that bringing in more and
17 more oil from out of country and out of state,
18 going to actually benefit us environmentally?

19 Think about the amount -- not just the
20 amount of I2, and they've discussed this to a much
21 higher level than I can with, you know, not even a
22 bachelor's, but of how this is going to affect the
23 environment? But also how transporting it is
24 going to affect the environment? Think about the
25 number of trains coming in and out producing I2.

1 Think about the amount that, you know, that's
2 going to burned, it's going to be going up.

3 And there is a report of no return. I
4 hope you all realize that with climate change, I
5 believe it's about two degrees and then we're kind
6 of screwed from there. Forgive my teenage
7 wording. But is it going environmentally worth it
8 to bring all of that in, to bring more and more
9 oil in, when we potentially won't even be using
10 it? We can't export it to other countries. I
11 desperately hope we don't change the policies, so
12 that we can export it to other countries. So then
13 what is the point of destroying our environment to
14 bring in a resource that we're trying our hardest
15 to stop using? And that we don't actually need.
16 Thank you.

17 COMMISSIONER SCOTT: Thank you. Thank you
18 for your comments. If you would make sure the
19 court reporter knows how to spell your name that
20 would be terrific.

21 I have one blue card left, I don't know if
22 the public advisor has any others, and it's from
23 David Gassman. Did he return?

24 Okay. I do believe that that is all of
25 the public comment that we have. The docket will

1 be open, so you can submit comments to us in
2 writing and we would look very much forward to
3 hearing from all of you there.

4 I just want to make a couple of closing
5 remarks and then I'll turn to my fellow dais mates
6 to see if they have anything for you as well.

7 I just want to say that I thought this was
8 just an excellent and informative day. I think we
9 really laid a good foundational background on what
10 the trends are and why they're changing and how
11 they're changing. We talked about, and we brought
12 together many of the federal, state and local
13 agencies that have a role or responsibility. We
14 learned what those roles and responsibilities are.
15 We learned a lot about the data that we do have,
16 the data that we don't have, the data that we do
17 need to be able to do our jobs well. We
18 identified some of the gaps and we talked about
19 some solutions for how to fill those gaps.

20 I am very heartened by the proactive
21 approach that the Governor's Office and the state
22 is taking to put all of the state agencies
23 together to collaborate, to share information, to
24 work together. And the CEC is thrilled to be a
25 part of that.

1 Today we heard concerns and issues. We
2 heard some solutions to those concerns and issues
3 and we learned that there is still a lot that
4 needs to be done. Like the role of retrofitting
5 the old rail tank cars or the need for attention
6 to some of the local regions for training and
7 preparedness for emergency responses.

8 I thought it was great to hear from
9 Assemblymember Skinner with an update on the
10 budget, and the nimbleness and the flexibility of
11 the budget and the Legislature to provide the
12 identified and needed resources that'll help put
13 all Californians in a better place.

14 It was just an incredible amount of data
15 and information that as provided here today, so I
16 want to remind everyone that you can find it on
17 our webpage. And you can lend your voice to us by
18 submitting written comments. Just submit it right
19 into the docket and Heather will -- actually the
20 next steps are right here for you to see how to
21 get that data and information to us.

22 I wanted to say a many, many thanks to our
23 presenters, a lot of whom traveled a long way to
24 provide this information for us. And again,
25 reiterate my appreciation for their indulgence in

1 the red and yellow cards that allows us to get
2 through actually quite bit of data and information
3 during the day.

4 And then last, I would just note that it
5 takes a village to put this together. I'm not
6 sure if I can thank everybody who really helped to
7 play a role, but I just want to say thank you to
8 our I team, Heather and Lynette; to Gordon and I
9 for pulling this together, and for Gordon's
10 terrific presentation; to Jim Bartridge; to I; to
11 Alana; to Lauren and to our media team. It just
12 was a lot of folks who worked really hard to make
13 sure that we had great presentations and a great
14 day.

15 And I want to thank also our partners at
16 the Governor's Office for helping with this. It's
17 great to get to work with you all on these. And
18 that is all. Let me turn it to you all and see if
19 you have any closing remarks for the day.

20 COMMISSIONER DOUGLAS: I'll just join
21 Commissioner Scott in thanking everyone she
22 thanked, because it really did take a lot to pull
23 this together. I'll add again, Berkeley City
24 College for hosting us, making it possible for us
25 to hold this event in the Bay Area.

1 And I want to say that, you know, I did
2 note that a number of local elected officials and
3 members of the public made it through the entire
4 day. And so it was good to see that, because one
5 of the purposes of this workshop was to, in fact,
6 provide information to the public about all these
7 agencies and what they do and trends. And, you
8 know, we pulled together a very information-packed
9 agenda. I learned a lot and I think that, no
10 doubt, many people learned a lot, because we
11 covered so much material in a day.

12 So anyway I appreciate everyone's
13 participation today and look forward to any
14 additional comments we may get on this workshop.

15 MR. RECHTSCHAFFEN: Thank you very much to
16 everyone for participating. A special thanks to
17 the Energy Commission for preparing such a
18 comprehensive and detailed information-pack filled
19 program on a tough set of issues that are emerging
20 and pulling all of us together.

21 I want to just to commend to everybody the
22 I, that actually is really the policy guide for
23 state energy policy in the state. It's chock full
24 of great information and this findings from this
25 will be incorporated into that report. We learned

1 a lot. We realized we have a lot to learn and
2 it's still very much a work in progress. And we
3 look forward to continuing to work with everybody
4 in the days ahead. Thanks again.

5 MR. ALEX: Yeah, I'll echo that quickly
6 and say thank you to the Energy Commission and
7 staff for putting this altogether. These are a
8 very complicated set of issues as we try to deal
9 with climate change and, as you heard, some of the
10 challenges around weaning ourselves off of oil.

11 And I, you know, continue to be concerned
12 that California has a huge usage of oil that we
13 have to come to grips with and cannot our snap our
14 fingers and simply be done with. So how we work
15 our way out of that usage is essential. And it's
16 also part of both our strategy and our obligation
17 to deal with climate change. So these issues are
18 going to come up in a series of different ways as
19 we try to confront it.

20 So thank you very much for spending the
21 day with us and trying to help us understand
22 better, the set of issues that we're facing.

23 COMMISSIONER SCOTT: Great, thank you.
24 We're adjourned for the day.

25 (ADJOURNED)

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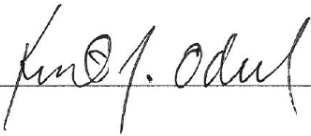
REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my

hand this 11th day of August 2014.

A handwritten signature in cursive script, appearing to read "Kent Odell", is written over a horizontal line.

Kent Odell
CER**00548

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of August, 2014.



Terri Harper
Certified Transcriber
AAERT No. CET**D-709