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CALIFORNIA ENERGY COMMISSION

STAFF WORKSHOP

In the Matter of:)	Docket No.
)	15-IEPR-13
IEPR Staff Workshop -)	
Trends in Crude Oil Market and)	
Transportation)	
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CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET, FIRST FLOOR

ART ROSENFELD HEARING ROOM

(HEARING ROOM A)

SACRAMENTO, CALIFORNIA

MONDAY, July 20, 2015

10:00 A.M.

Reported By:
Kent Odell

APPEARANCES

Commissioners Present

Janea Scott, Commissioner CEC

Karen Douglas, Commissioner CEC

Staff Present

Heather Raitt, IEPR Program Manager

Gordon Schremp, EAD Administration

Panel Presenters (* Via telephone and/or WebEx)

Gordon Schremp, California Energy Commission

Ryan Todd, California Office of Spill Prevention and Response

Paul King, California Public Utilities Commission

Jim Duffy, California Air Resources Board

Paul Penn, California Environmental Protection Agency

Bob Gorham, California Office of State Fire Marshal

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1 P R O C E E D I N G S

2 JULY 20, 2015

10:05 A.M.

3 MS. RAITT: All right, good morning. Welcome to
4 today's IEPR Workshop, IEPR Commissioner Workshop on Trends
5 in Crude Oil Market and Transportation.

6 I'm Heather Raitt. I'm the Program Manager for
7 the IEPR.

8 I'll go over a few housekeeping items. Restrooms
9 are in the Atrium, a snack room is on the second floor. If
10 there's an emergency and we need to evacuate the building,
11 please follow staff to Roosevelt Park, which is across the
12 street diagonal to the building.

13 Today's workshop is being broadcast through our
14 WebEx conferencing systems, so the parties should be aware
15 you are being recorded. We'll post an audio recording in a
16 few days and a written transcript in about a month.

17 Today we'll break for lunch at about noon for an
18 hour.

19 And at the end of the day there will be an
20 opportunity for public comments. We'll limit them to three
21 minutes. First we'll hear comments from those in the room
22 and then from WebEx participants.

23 For the WebEx participants you can use a chat
24 function to tell our WebEx Coordinator that you'd like to
25 make a comment during the public comment period. And we'll

1 either relay your comment or open the line at the
2 appropriate time. Then we'll hear from the phone-in only
3 participants.

4 If you haven't already, please sign in at the
5 front entrance to the hearing room where there are
6 materials from the workshop.

7 Written comments are due on August 3rd and the
8 process for submitting comments is in the notice.

9 And with that I'll turn it over to the
10 Commissioners. Thank you.

11 COMMISSIONER SCOTT: Great. Thank you very much,
12 Heather.

13 And good morning to everyone. Thank you all for
14 being here today. I am Commissioner Janea Scott and I
15 serve as the Public Member here at the Energy Commission.
16 And I'm a Lead Commissioner on Transportation.

17 I'm also joined today by Commissioner Karen
18 Douglas. And we're holding this workshop as part of the
19 Energy Commission's 2015 Integrated Energy Policy Report.

20 Last year I oversaw the 2014 Integrated Energy
21 Policy Report Update. And as part of that effort we had an
22 initial workshop that focused on the changing trends in
23 California sources of crude oil, with an emphasis on the
24 growth of crude oil being delivered by rail.

25 I thought it was an informative forum that

1 brought together Federal, State and local agencies, rail
2 operators, the oil industry and environmental
3 organizations.

4 The workshop presentations and discussions made a
5 nice foundational background on the trends being seen in
6 California, as well as why and how those trends are
7 changing. There was a great exchange of information. And
8 overall, I thought it ended up being a very informative and
9 valuable day.

10 Today in the presentations and conversations we
11 hope to provide an update on the latest trends in petroleum
12 and crude oil distribution logistics. We will also take a
13 look at the progress that has been made on safety
14 requirements and oversight of crude by rail transport, as
15 we all recognize the importance of California proactively
16 addressing safety concerns.

17 Overall, today is a good opportunity for us to
18 get this update on some of the information that we heard
19 last summer. And I'm very much looking forward to today's
20 workshop.

21 And with that I'll go ahead and turn it over to
22 Commissioner Douglas for any opening remarks.

23 COMMISSIONER DOUGLAS: Well, great. Thank you.
24 And I'd just like to join Commissioner Scott in welcoming
25 everyone to this workshop. As she said, we had learned a

1 lot last summer, and we're looking forward to hearing a
2 number of updates. And seeing, you know, both some of the
3 progress and some of the work that remains to be done in
4 this area.

5 So those are my remarks. And I guess from here
6 we go on to Gordon's presentation.

7 MR. SCHREMP: Good morning Commissioners,
8 attendees, and people listening in on the Webinar. My name
9 is Gordon Schremp. I'm a Senior Fuel Specialist at the
10 Energy Commission. I work in the Energy Assessments
11 Division, formerly the Transportation Energy Office.

12 So part of what we do in our office is collect an
13 awful lot of information from the industry, both petroleum
14 and renewal based. We're looking at volumes of fuel coming
15 to the system, how much is produced, and imported and
16 exported.

17 And we're also very interested in changing trends
18 that could affect the transportation and energy
19 infrastructure. So that's why crude and crude by rail has
20 been a bit more of a focus at the Energy Commission, as
21 Commissioner Scott mentioned beginning of last year.

22 And so, today's workshop is intended to look at
23 what has changed; some meaningful changes in the industry,
24 certainly with crude oil production and prices. And that's
25 caused an impact on crude by rail projects, especially out

1 here on the West Coast as well as logistics of crude by
2 rail.

3 And there have been many changes in the arena of
4 safety for the movement of hazardous materials, the
5 containment of hazardous materials in rail tank cars, train
6 operations, etcetera. So our two speakers today from the
7 California Public Utilities Commission and the Office of
8 Spill Prevention Response will be addressing those
9 meaningful changes in greater detail.

10 So in my presentation I'll be covering these
11 topics, provide an overview of California, switch gears to
12 the U.S. and finally a global perspective, primarily on
13 supply of crude oil and prices.

14 And then getting into sort of the meat of the
15 topic, looking at crude by rail and where projects are
16 going now. And I guess the word best describing these is
17 "delay" I think, across the board, whether that's in
18 California or in Washington State.

19 And finally to do a bit of a review, I think it's
20 important to mention all of the sister agencies in
21 California, and all of their efforts in this space. We
22 have a couple of slides from our previous IEPR document
23 highlighting their areas of responsibility.

24 So California is an isolated market along with
25 Washington State. We are isolated by time and distance for

1 resupply hence we're seeing quite a price spike in
2 California lately. Not related to crude oil, certainly,
3 but our market is different than that of other areas of the
4 United States, whether a large exporting region like the
5 U.S. Gulf Coast or a large import area like the Northeast
6 and East Coast of the United States.

7 So our refineries are concentrated in Southern
8 California and Northern California primarily, some refining
9 capacity in the Bakersfield region and in Santa Maria.

10 It's about 1.6 to 1.7 million days of processing
11 of crude oil, a little bit higher capacity than that. But
12 we have essentially 12 refineries doing the lion's share of
13 the production of California compliant fuel, whether that's
14 gasoline or diesel fuel.

15 So the refineries, certainly they operate 24-7
16 basically, unless there is some significant unplanned
17 outage. They do conduct planned maintenance on some
18 process units, not normally taking down the whole refinery,
19 and continue operating and producing from those other
20 units.

21 For crude oil receipts, for a variety of
22 locations, certainly the refineries have access to water,
23 so foreign imports by marine vessel is certainly an option
24 and provides the greatest flexibility to source different
25 types of crude oil and prices. So we get most of our crude

1 oil, or about 52 percent, from foreign sources. Alaska
2 sources are declining as Alaska production declines, which
3 makes sense. And so companies will just instead import
4 some additional foreign oil.

5 And we do have our own crude oil production. It's
6 about 30-35 percent, it ranges, and that's primarily
7 distributed by pipelines. And more recently rail, tanker
8 truck -- mainly rail -- but a very small percentage of
9 total of about 1 percent of our total supply for crude oil.

10 So California crude oil production had been
11 declining for many years from its peak in 1985 here. And
12 you see that it's dipped down to a trough in the last two
13 periods of information, 2013 and 2014. A little bit of an
14 upswing and so that upswing is about 5 percent. So that's
15 quite a change from where it has been, but certainly not a
16 resurgence in crude oil production like one has seen in the
17 United States, to which I'll get into.

18 So producers are still trying -- certainly with
19 crude oil in the \$100 to \$110 range as it was into summer
20 last year -- lots of drilling activity, which you see is
21 the -- well, not drilling activity, but actually producing
22 wells kept going up and up. And that, of course, can only
23 be accomplished through additional drilling permits. So
24 companies have been drilling, highly motivated because of
25 the high price.

1 Recently, producing wells have been some shut-in
2 wells. This can happen in the early part of the year and
3 this is a seasonal impact. But I think some of that shut-
4 in well capacity recently has to do with a decline in
5 price.

6 So as you can see, the green line is just how
7 much crude oil comes from each producing well each day. And
8 it's just a little over 10 barrels. So you contrast that
9 to some other areas that have produced 1,000 barrels per
10 day -- and even in Iran, whose production output is
11 estimated in some places it would be over 2 to 3,000
12 barrels per day per well -- so California is 10. So you
13 have to have a lot of producing wells, nearly 50,000, to
14 keep that production up in California.

15 But it hasn't been changing that much. Certainly
16 producers are looking to drill in the areas that will have
17 a little bit higher output. But most of the crude oil
18 produced in California is through enhanced oil recovery
19 practices: mainly thermally-enhanced oil production
20 recovery techniques, steam injection primarily. You do
21 have a little bit of carbon dioxide injection, a lot of
22 water flooding to push the oil to the surface.

23 So these are indicative of a very old crude oil
24 formation, and business, that we have here in California,
25 over a hundred years. Whereas shale oil production in some

1 areas is a relatively recent phenomena.

2 So the purpose of this chart is to show that
3 there are lots of pipeline projects because of the
4 tremendous increase in U.S. production. So producers want
5 to get access to where the refining capacity is. As I
6 mentioned the U.S. Gulf Coast, largest refining capacity in
7 the United States, they want to get the oil down there to
8 get the highest prices. Unfortunately, it's kind of
9 trapped up in northern parts of the Dakotas as well as in
10 Alberta.

11 So pipeline projects are in other areas, but you
12 don't see any pipeline projects going to California. That's
13 because it's hard to compete with water-born imports. And
14 so the industry has turned to crude by rail as a means of
15 trying to import some of this discounted crude oil in these
16 trapped regions of the United States for domestic
17 production.

18 So as I mentioned, foreign imports have been
19 growing as Alaska declines, and as California had been
20 declining, up until the last couple of years. We expect
21 this trend to change a little bit depending on how much
22 crude by rail comes in. We could see that green area, that
23 lower part, which includes not only California production.
24 It also includes crude oil brought in by rail and crude oil
25 brought in from domestic sources other than Alaska, like

1 North Dakota, by marine vessel. And that is crude oil
2 transported by rail to the West Coast, put on barge, put on
3 a ship, brought in to California.

4 And so last year, in 2014, a little bit more
5 crude oil came in by barge from North Dakota than it did by
6 rail. So this is a trend that could continue to grow,
7 especially if some projects in Washington State are
8 approved and ultimately constructed. And I'll cover those.

9 So pipeline access is very important for refiners
10 that depend on California crude. And so when there's a
11 problem with pipelines, which we've seen recently in the
12 Refugio Oil Spill, we've had some impact on refining
13 capability because of the shutdown in part of the playing
14 system as a consequence of the oil spill.

15 So the State Fire Marshall's Office, one of their
16 roles is oversight of the intrastate pipelines. And they
17 do not cover the interior state pipelines, of which there
18 are some petroleum products that do that. So hopefully
19 we'll have an update on how Refugio is doing with the
20 cleanup and what is happening with the pipeline.

21 So rail imports from outside of the state are
22 expected to displace water foreign imports, foreign
23 imports. And that's what we expect to see decline as rail
24 capacity increases.

25 And also important to note that rail does provide

1 a very important flexibility option in the event of, say,
2 losing some pipeline temporarily. A company can import
3 more oil by rail to work around interdiction of crude oil
4 from other sources.

5 And it's also something that can be looked at in
6 the event of a catastrophic event as a location, maybe, to
7 bring in gasoline and diesel fuel into California and
8 unload it after we've had a catastrophic earthquake, as one
9 example.

10 So foreign sources, certainly from the Middle
11 East not a surprise, because the dominant exporter in the
12 world. Although you do see a lot of local area crude. And
13 I mean from South America, Central America, Columbia,
14 Ecuador. That makes sense because we're a very large user
15 of crude oil here, so we're a good market, especially those
16 countries on the western side of the Panama Canal.

17 And Mexico crude has been declining in what goes
18 into the California refineries as Mexico crude oil has
19 continued to decline in output.

20 So you have to have a marine oil terminal to
21 import crude over the water and these are very important
22 facilities. Most refineries have access. Either they use
23 their own marine oil terminal that they own and operate.
24 Or, as in the case of the City of Los Angeles and Long
25 Beach, they have leased these facilities from those two

1 municipalities under long terms and that's how they operate
2 in bringing in crude oil by marine vessel.

3 So we'll switch gears and look at the United
4 States and see what's been going on there. Different, as I
5 mentioned earlier, compared to California.

6 So these three lines corresponding to the colors
7 on the chart: Yellow being the Bakken or North Dakota
8 Crude. And we're seeing that the purple is the Eagle Ford
9 you've heard about in Texas. And the dark green is Permian
10 Basin, also in Texas and a little bit in New Mexico.

11 Those three fields, if you will, are all
12 characterized as super-giant fields, producing over a
13 million barrels a day. And to put that in historical
14 context, you see the fields I have listed on the slide are
15 internationally, over the years, not very many.

16 So a remarkable renaissance of crude oil
17 production in the United States through the use of
18 hydraulic fracturing deployed in a widespread use in shale
19 formations, both in oil and natural gas, as well as
20 improved drilling technique with regard to extended reach.
21 Being able to drill laterally a much greater distance, much
22 greater accuracy in drilling, and much greater
23 understanding of the formations with seismic 3D imaging.

24 So the companies have been able to be more
25 efficient and extract these resources from relatively new

1 formations of shale oil, so all total almost 5 million
2 barrels a day from these three formations alone.

3 And so you put all of that together in this dark
4 blue line and you see a tremendous rebound in U.S. crude
5 oil production. Not quite breaking the all-time record,
6 which is a little over 10 million barrels a day, but
7 getting close. And it may not quite get there, because of
8 the drop in prices and a decline in drill rigs being
9 deployed, which I'll cover in just a moment. But
10 certainly, the highest point on this chart.

11 And you see where that's primarily coming from:
12 Texas, the purple line; North Dakota, the green line. And
13 that's recently peaked and started to decline a little bit,
14 which is something probably OPEC was looking to see at some
15 point with the collapse in oil prices.

16 So the final two lines on there, you see
17 California is a blue line. It's relatively stable, then
18 rising a little bit. And Alaska continues to decline.

19 So comparing to January 2010, the biggest jumps
20 between that point, and April the most recent month data is
21 available, 2.6 million barrels a day from Texas --
22 incremental oil production. And North Dakota, almost a
23 million barrels a day.

24 And you see California, virtually unchanged from
25 those two points in time.

1 And Alaska is continuing to decline.

2 So as production has had that meteoric rise it's
3 been backing out imports, so that's helped with the trade
4 balance. And you're looking at imports that are now at the
5 level they were in 1995, so a rather significant reduction.

6 And to the extent that crude oil production
7 continues to rise in California, which is now going to be
8 in doubt, and the efficiency of using transportation fuel
9 in engines, which over the long period of time both we and
10 the Energy Information Administration are forecasting to
11 decline, that will have the impact on imports. But there's
12 no forecast that they will return to their pre-oil increase
13 peak back in early 2000s.

14 So global activity, a lot of it has been focused
15 on what OPEC will do. So OPEC keeps pumping out crude oil,
16 Saudi Arabia over 10 million barrels a day. No change.
17 They're not willing to cut their output to keep prices
18 elevated, because that's their market share. So they're
19 keeping a lot of crude oil on the market, discounting their
20 prices. And in part, a large part, that has led to a lot
21 of downward pressure on prices. So they're not relenting,
22 there's been no change in position.

23 And even non-OPEC members, very important oil
24 producers like Russia, are now actually producing over 10
25 million barrels a day currently. And it is actually a

1 record quantity for them post-Soviet Union collapse. So
2 lots of oil production outside of the United States,
3 keeping a lot of oil in the marketplace.

4 So demand growth is still very strong. And
5 especially with a bit of decline in prices is going to spur
6 a little bit more incremental demand globally. And you can
7 see about 1.5 percent this year compared to last year. So
8 demand growth, where is it occurring? Well, if you look at
9 the green bars, Asia on the very far right. That's the
10 biggest jump you see on here.

11 The former Soviet Union is a decline, because of
12 the recession there, a lot of that having to do with the
13 sanctions imposed.

14 In Europe, now, for the first time in quite a
15 while you saw declines going on in Europe because of their
16 economic difficulties -- quite a rebound. So that in
17 conjunction with North America, which was also either flat
18 or declining.

19 And Asia is looking at a 1.5 percent growth.

20 So it is a bit of a rebound, so that's sort of
21 where you have a increase of supply, increase in demand.
22 If demand was actually dropping off you'd see a bit more of
23 a collapsing in oil prices than you do today.

24 So comparing to 2008, and then this is an updated
25 slide for 2014, where has the most oil come from? That

1 would be the big, giant red bar of the United States. So
2 rather remarkable looking at the all of the other oil-
3 producing companies, these are the top 21, and you see
4 that's more oil than all of the other -- it's three times
5 more than the remaining countries, their net increase of
6 1.5 million barrels a day.

7 So pretty stunning that that's occurred and
8 likely not going to be sustained, it will start to drop off
9 a little bit. But that in large part, so much supply,
10 demand not rising nearly enough, and so you have what? Too
11 much oil on the market.

12 So this somewhat busy chart is looking at supply
13 in blue and demand in orange. So when that blue bar is
14 higher than the orange bar, excess volume onto the market
15 place. And you look at those excess numbers, when did they
16 start? First quarter of 2014, second, and then you get
17 into the third quarter all of very positive numbers. Lots
18 of excess oil had to go into storage. And you had to
19 discount prices, so that's why the price collapses
20 essentially start right after the second quarter of 2014.

21 And has that situation improved? No. Lots of
22 supply on the market as I mentioned, Saudi Arabia and
23 Russia, as well as what was coming out of the United
24 States.

25 So through the first quarter almost a record

1 imbalance of crude oil supply, so this is keeping a
2 downward pressure on prices. And don't be surprised to see
3 a continued slide of crude oil prices going in to the end
4 of this year.

5 And what is not factored into this is what is
6 going to happen with the Iran sanctions being partially
7 lifted or gradually lifted. Is the nuclear deal
8 consummated with Iran and if so, what's the timing?

9 Everyone wants to know these questions, because
10 what is going to happen if that does occur is you are going
11 to see a new resurgence of Iranian crude oil exports in the
12 marketplace. And that will not put upward pressure on
13 price; it will put additional downward pressure. So then
14 OPEC's going to have make maybe some other decisions on
15 what to do.

16 So these are just some numbers that you can look
17 at later. Where they peaked and then how far they dropped.
18 It was really significant before we happened to see a
19 rebound right sort of in February. That's the dotted line
20 and this is using a international benchmark, Brent North
21 Sea Crude Oil. And you see it rebounded, it came up a
22 little bit in May, and is now has started to do a little
23 bit of a gradual decline.

24 So this is indicative of international crude oil
25 prices doing the same thing -- drifting down, will likely

1 drift down some more. But look at last year, 2014, when
2 the decline started by mid-year and went down rather
3 steeply. So yes, we're 47 percent lower as of last Friday,
4 but it is possible that that difference will be narrowed
5 moving deeper into this year, because of the rapid decline
6 last year.

7 So this is just to show you that there are
8 different types of crude oils, but they show a similar
9 relationship to one another meaning they go up together,
10 they go down together. And somehow, they are priced off of
11 benchmarks.

12 And certainly the San Joaquin Valley is a more
13 heavily discounted crude oil; it's of course sort of
14 trapped here in California, really can't get out. That's
15 because you really can't export crude oil from the United
16 States. There are lots of restrictions, so it's very
17 difficult. There have been lots of attempts to modify
18 these regulations from the '70s to allow those producers to
19 get into the international market and fetch a higher market
20 clearing price.

21 So because of the inability to easily do that or
22 even partially do that we've seen crude oil prices
23 discounted heavily in Central United States and in Canada.

24 So that drop in oil prices led to a direct drop
25 in drilling for crude oil. Drill rig deployment is

1 expensive; when oil is \$110, no big deal, when it's 50, big
2 deal. So deployment has dropped off a lot and where that
3 drilling was occurring shifted to areas that were known to
4 have high output.

5 Let's do some fill-in wells in our own producing
6 acreage that we have great knowledge in, rather than more
7 exploratory and less known territory. So that's what's
8 going on right now. And you're seeing some of the biggest
9 drops are in Permian Basin in Texas, the Williston, which
10 is Bakken and Eagle Ford, also Texas.

11 So crude by rail, it's a rather recent phenomena,
12 end of 2010 going into 2011 we started to see an increase.

13 The Energy Information Administration is now
14 collecting data and publishing information monthly on crude
15 by rail. So this is a really good development for
16 information to see where regionally crude by rail is being
17 sent and so, very helpful now, to look at this in different
18 parts of the United States. You can't look at specific
19 states, but you can look at regions.

20 So if you look at the green bars are all of the
21 crude oil movements and this includes crude oil imported
22 from Canada and then transported on the rail lines. So
23 that's important for the volume of crude moving on rail in
24 the U.S. Territories. So that's why we include that in the
25 data as does the EIA.

1 And also, when looking at what percent of total
2 U.S. output we exclude those Canadian barrels. And so you
3 get about 9 percent of all U.S. production is going and
4 being transported by rail.

5 So that's quite a bit in the United States. And
6 in California it's far less than 1 percent of our own
7 production is going to rail. It's on the order of two-
8 tenths of a percent, a very small amount.

9 So here are our statistics for 2014. And you're
10 seeing that it's a little bit less than 2013. And it's
11 like, "Well, why is that going down?" It has everything to
12 do with what is the price of the crude oil at its point of
13 origin, meaning how much is it discounted, and what's the
14 cost of the rail tariff to bring it in?

15 So that had been going on in some areas.
16 McClellan had -- SAV Patriot was bringing in some rail cars
17 with crude oil and transferring it to tanker trucks. This
18 is something called transloading. This happens a lot in
19 other areas of the United States for ethanol where you
20 don't have storage tanks, but the rail cars can transfer
21 directly to the tanker truck. And so this was going on at
22 SAV Patriot as well as the Kinder Morgan Rail Yard in
23 Richmond.

24 So the Patriot's permit has been rescinded, so no
25 crude operations there. And a little bit at Kinder Morgan,

1 but really the crude by rail activity has died down a
2 little bit.

3 You see a capacity in California. And this
4 excludes the one crude by rail that can receive unit trains
5 every day, a facility by Plains All American, from that
6 number. So this is 58,000 from all of these other
7 operations in Northern California and Southern California.

8 And to put it into perspective how much were
9 being used, it's about 15 percent of that capacity was
10 being used in 2014. Oh, actually in the first quarter of
11 2015.

12 And then the crude oil, where does it go? Well,
13 this is very important to our first responders on where are
14 the routes being taken. This is something that I think
15 Paul will be mentioning from the CPUC on what these routes
16 are. They have certainly concerns about some high-risk
17 areas of derailment as well as high-risk areas of
18 population centers where the oil trains could transit.

19 And so there's lots of different routes, but
20 primarily you have to get across the Sierras or you have to
21 come in from the north. And there are limits on where you
22 can shift your routing to ultimately get to these
23 distribution terminals, either in Northern California or
24 Southern California -- I mean, Bakersfield -- if they're
25 all constructed.

1 As I had mentioned crude oil by rail in
2 California declined. You see the peak in December and then
3 it drops off and you see it change in the colors. So
4 Canada was the yellow color and then, all of sudden, no
5 Canada. What happened to Canadian crude? It's just not
6 very good anymore? I'm from Canada, so you know, I maybe
7 take a little offense to that. But there's good reason
8 this happens. It has to do with, "What's the price in
9 Canada? What's the price here? What's the rail tariff?"

10 And so this busy, busy chart is taking the price
11 of a particular type of crude oil, subtracting it from an
12 international benchmark crude like Brent, and so the bigger
13 the line the bigger the discount. So no coincidence,
14 maximum crude by rail came into California when the largest
15 discounts were present.

16 And then those discounts fell off and what fell
17 off particularly fast? The dotted lines, Canadian crude
18 oil discounts.

19 This occurred because of additional pipeline
20 capacity that came online in Canada that allowed Canadian
21 producers to fetch a higher price, because pipeline tariffs
22 are less expensive. So we'll see how this goes, but right
23 now it's less economical than it used to be to bring in
24 crude by rail into California than it was before.

25 So this slide is intended to show you where crude

1 by rail projects are being examined or pursued, I should
2 say, is more accurate. One operational, that's the Plains
3 All American I'll talk about, and we have a couple of other
4 ones.

5 A significant change is the WesPac facility in
6 Pittsburgh, no longer pursuing crude by rail. They have a
7 marine terminal they are pursuing, but not rail.

8 And then for emphasis I've crossed out in red
9 lines, purposely so, to show that our estimate of sort of a
10 maximum amount of crude by rail that could occur and when
11 has changed. It has shifted in two ways: down in total
12 percentage to 19 percent and extended out one year to 2017.

13 So this has to do with the tremendous opposition
14 to crude by rail projects in California. And no different
15 than what is going on in Washington State.

16 So the operational crude by rail terminal is near
17 Taft in the Bakersfield region. They can handle a crude
18 unit train of 100 cars a day. Their initial delivery began
19 right around Thanksgiving. But there hasn't been a
20 tremendous utilization of that facility, because of the
21 poorer economics at this time. So we'll see.

22 And then there's some litigation underway with
23 regard to rigorous their permit was that was granted by
24 Bakersfield, the Bakersfield county down there.

25 So Alon is also in the same region at the Alon

1 Refinery that's currently idle. Their project has been
2 approved and they've actually let an engineering contract
3 to get a little bit more serious about the plans. And then
4 they certainly would have to sign up customers and secure
5 financing. So that project is not dead and nor is it in
6 stasis. So it does seem to be progressing, but we haven't
7 had construction start yet.

8 And that's rather significant, 150,000 barrels a
9 day. It's a significant amount of crude oil. And they are
10 able to bring in crude oil that would be heavy, because one
11 half of the project is steam -- has steam access -- so they
12 would reheat the rail cars to get the crude oil out of them
13 once they arrived from, say, Canada.

14 So in Northern California, in Benicia, the Valero
15 Refinery is looking at crude by rail to improve their
16 flexibility and access to crude oil. They currently don't
17 have rail access there; it's just marine and pipeline. So
18 that's 70,000 barrels a day. That Recirculated Draft
19 Environment Impact Report is going to be released soon and
20 then there will be a 45-day comment period. So that
21 project has not received approval at this point and time.
22 And the comment in the whole -- I think the Environmental
23 Review has been a rather lengthy process as to when it
24 originally started.

25 The WesPac Project I mentioned in Pittsburgh,

1 Antioch Region in Northern California, no longer pursuing a
2 crude by rail element or a crude rail receipt capability.
3 But that was a smaller portion of the project that was
4 intended mainly to receive crude by marine vessel.

5 And I think the importance of this is sort of
6 where it's situated and how connected it is, so the whole
7 point is to get in to the pipelines that go to the
8 refineries, so four of the five refineries in California
9 would have access to crude oil being brought in by the
10 water into this facility. So it uses the existing pipeline
11 infrastructure, if you will. So it's just bringing some
12 more in, so that's their project.

13 And there's going to be -- I'll just back to one
14 more slide. We have comments are due July 31st, so soon,
15 in about 11 days from now, on the Recirculated Draft IER.
16 That's the notice on that. So that project, still in
17 review.

18 And one more, that's an active permit, and that
19 is the Phillips 66 Refinery in Santa Maria. They receive
20 by pipeline and a little bit of trucking goes into that
21 facility of crude oil.

22 And this is a facility that has had an impact by
23 the shutdown of the Plains All American pipeline after the
24 Refugio Oil Spill. So they certainly would be utilizing
25 their rail at this point if they had project, but that has

1 not been approved for construction. And it's a little bit
2 smaller than it was originally. I think we had over 41,000
3 barrels a day. Now it's under a little more than 37,000
4 barrels a day, so that's still in process.

5 Two other projects we have included in that
6 estimate that gets us to 19 percent by 2017 are one
7 facility in Northern California, the Targa Project in
8 Stockton. They still have to -- this has a marine terminal
9 element to it. And they still need approval from the State
10 Lands Commission. So that step has not been completed of
11 demonstrating a game plan to bring their marine terminal up
12 to current seismic standards.

13 So these are basically Marine, Oil, Terminal,
14 Engineering and Maintenance Standards or MOTEMS, building
15 codes for marine oil terminals that all of the facilities
16 in California must comply with.

17 Questar is a different kind. It's almost like
18 the Plains Project or the WesPac. Put the crude oil
19 receiving point at a location where you can get it into the
20 pipeline system. So this is well outside of the Los
21 Angeles-Long Beach Basin, where the intent is to put the
22 receiving facility and then build some new pipeline that
23 gets all the way into Long Beach. And then gets into the
24 infrastructure of crude oil pipelines to oil refineries
25 down there.

1 And so that has still not been finalized as a
2 receiving point nor the development of the documentation
3 for the Environmental Review of that. So we haven't really
4 included these. They haven't progressed as much and we
5 don't know if they ultimately will.

6 So a final state of crude by rail is talking
7 about Washington State, important because we are seeing
8 some crude oil coming down into California that was
9 transported by rail to some Washington locations as well as
10 Oregon and the Clatskanie, along the Columbia River. And
11 as you can see, not one operational facility, but many in
12 Washington State, and almost 300,000 barrels a day of
13 offloading capacity. Compare and contrast that to
14 California of a little over almost 120,000 barrels, so much
15 more.

16 These projects were started sooner, because the
17 rail tariff cost to the Pacific Northwest is much less
18 expensive than that of California as well as the fact that
19 refining capacity in Washington State depends a lot more
20 what? Crude oil from Alaska, which as you remember from
21 the earlier slides is continuing to decline. So there is
22 concern about, "What am I going to do if that continues to
23 decline?" And so that's why these projects were pursued
24 initially at these locations.

25 And all of these are refineries except for

1 Clatskanie, which is on the Columbia River. And now it has
2 been expanded to be able to receive up to 120,000 barrels a
3 day at that location. Transfers the oil on to marine
4 vessels down the Columbia River and they go to the West
5 Coast refineries.

6 There are two important projects I'll mention
7 here. One is Tesoro Savage, also on the Columbia River,
8 you see the site location near Portland. And this is up to
9 360,000 barrels of day; a very large throughput project.
10 Once again bring it in by rail, put it into storage tanks,
11 load marine vessels. Ocean-going marine vessels and they
12 of course would have to be Jones Act vessels going from one
13 U.S. port to another.

14 And so this project has been taking a lot longer
15 to get approval than originally anticipated by the company,
16 I'm sure.

17 And so right now maybe the end of November is
18 when we will see a Revised EIS come out. And then that
19 will take the project review into the following year. So
20 it's doubtful they'll be operational in 2016 if they are
21 approved. And so we'll have to see how that goes.

22 But certainly a lot of this crude oil could end
23 up in California by marine vessel, which for an
24 infrastructure issue wouldn't be one, because it would be
25 displacing foreign imports by marine vessel. And so a ship

1 just still shows up at the same marine terminal, just the
2 crude oil came from a different location, domestically or
3 from Canada.

4 So the other is Shell Anacortes, which has gone
5 into a full EIS Process. They thought they could get sort
6 of a negative declaration, if you will, but that was
7 refused. There was some litigation and that didn't
8 succeed. So possible startup is sometime during 2016 and
9 that is still in the review process.

10 So I find a couple of slides. And these are
11 from, as Commissioner Scott mentioned, we had an off-cycle
12 IEPR in 2014 publication. And in the crude oil chapter you
13 will see agencies listed in their respective roles and
14 responsibility, vis-a-vis crude oil and ethanol, another
15 hazardous material transported by rail.

16 So the Governor's Office certainly is for
17 emergency response. They look at contingency plans and
18 they also receive information in advance of some selected
19 crude by rail on the shipments that are going to occur.
20 And I'll let Paul talk about that in his presentation. So
21 that's, I think, a matter of contention about how much
22 information is shared ahead of time. And this is for first
23 responders to be able to know where the crude by rail is
24 coming.

25 OSPR has done an awful lot of work in response to

1 legislation and direction by legislation. And Ryan Todd is
2 going to talk about that.

3 And then I'll switch to the second to the last
4 slide. The State Lands Commission, who won't be able to
5 participate in the Panel today, does have a lot of roles in
6 crude over the water. And it has to do, because as I
7 already mentioned, they have engineering standards for the
8 terminals. But they also have inspection to make sure
9 those facilities are operating properly and not putting the
10 community or the environment at risk.

11 And they also collect a lot of information on use
12 of marine terminals. So everything that's offloaded and
13 everything that's loaded is all tracked by the State Lands
14 Commission and quantified. And that kind of information is
15 very, very useful for the Energy Commission in our
16 Reporting Unit to properly account for and quantify where
17 crude oil is, and other products are going to, and where
18 they have come from. So we depend heavily on the State
19 Lands Commission data collection activity to help augment
20 our own.

21 And the State Fire Marshal has a lot to do with
22 pipeline oversight and we'll hear about that in today's
23 Panel.

24 And we collect a mountain of information from the
25 industry. In the crude by rail arena our data collection

1 is from the railroads, the two Class 1s, they provide us
2 the information monthly: number of rail cars, the delivery
3 locations and the source of that oil.

4 And we also have all of the refineries and other
5 parties are reporting to us monthly on their imports and
6 exports for everything. That also includes some crude by
7 rail.

8 And then Jim Duffy will be here to talk about
9 what information is being collected by the Air Resources
10 Board as well as their regulations, looking at reducing the
11 carbon intensity of crude oils.

12 So those are all my slides. I'd be happy to
13 answer any questions, if you have some.

14 COMMISSIONER SCOTT: And that was a terrific
15 presentation, Gordon, very thorough. I do not have any
16 questions. We don't have any questions from up here for
17 you.

18 MR. SCHREMP: All right, thank you very much.

19 COMMISSIONER SCOTT: All right. Let me just
20 remind folks in the audience that if you'd like to make a
21 comment we have these blue cards. They are at the table
22 right up front, so please feel free to fill one out and
23 give it to the IEPR team and they'll make sure I get it and
24 know that you want to make a comment.

25 And I would like to welcome Ryan Todd from the

1 Office of Spill Prevention and Response. Thanks for
2 joining us today, Ryan.

3 MR. TODD: Thank you, Commissioner Scott. Let me
4 adjust this microphone here.

5 So yes, my name is Ryan Todd. I'm a Senior
6 Attorney at the Office of Spill Prevention and Response.
7 Thank you for inviting us today to describe and explain our
8 role in the changing movement of oil.

9 So the main topics today I'm going to talk about,
10 are trustee responsibility just real briefly, to set the
11 context for what we do. I'll have a couple of slides on
12 the changing shifts in oil, not nearly as extensive as
13 Gordon or Paul might discuss. And I'll explain our program
14 and how we've had to implement our program statewide.

15 So real briefly, the Public Trust Doctrine, it
16 can be traced at least as far back as Emperor Justinian.
17 And sort of the concept of the Public Trust Doctrine is, as
18 he explained, things like air and water and the shore are
19 common to all people. And in a certain extent you could
20 say that about oil.

21 So here in California, for wildlife, the Public
22 Trust Doctrine is played out through the Board of Fish
23 Commissioners back in the 1870s. And then over time it
24 evolved into the Department of Fish and Wildlife. And you
25 can see in 1991 our program was established by the

1 Legislature.

2 So just our public trust responsibilities are
3 codified in statute and it's the guiding principle for our
4 mandates.

5 Pollution is one of the biggest threats to
6 wildlife. If you think about a tanker going down or a
7 bunch of rail cars or a pipeline rupturing, it's a one-time
8 large threat to wildlife and habitat. And you can sort of
9 compare that to disease. And it's hard to think of things
10 that can be as significant to critters and habitat.

11 So in 1991 the Legislature created our program.
12 It was originally a coastal program to protect waters of
13 the state; originally coastal waters from oil spills. And
14 then in 2014 the program was expanded to all service waters
15 of the state. We don't cover groundwater.

16 So the program consists of an Administrator, who
17 is a Governor appointee, and that person is also a Chief
18 Deputy Director of the Department of Fish and Wildlife.
19 Presently that's Tom Cullen. And you can see that the
20 Administrator has significant responsibility, they have the
21 state's primary authority to direct prevention and removal
22 and cleanup of oil spills.

23 And our office serves as the Incident Commander
24 for -- as a state rep, for oil spills. And that's in all
25 state waters, except groundwater.

1 So this slide is a significant summary of what
2 Gordon talked about. As I said, our program was coastal
3 originally, so we were focusing on ships and pipelines in
4 rain waters. But as you know, there's a significant --
5 from our perspective a significant shift to rail, to crude
6 by rail and its potential impact on the state if there was
7 a spill. And again, it's a significant summary of what it
8 showed.

9 But rail is going to come into California three
10 main ways: through the northern part of the state, southern
11 part of the state and, as Gordon mentioned, through marine
12 vessel down the coast. And I'll defer to him and Paul King
13 in for routing and volumes that might be coming in, because
14 the CEC's data is going to be more current than ours.

15 Again, it lists the potential facilities along
16 the coast.

17 And as most people noticed, there seemed to be an
18 uptick in the number of incidents involving crude by rail,
19 especially in the past couple of years. And with crude by
20 rail coming in through the northern part of the state along
21 some -- you know, the Feather River and the Sacramento
22 River, if you had a number of cars go into those rivers
23 that would really be a significant incident. And so the
24 Legislature recognized that and the Governor recognized
25 that and expanded our program last year.

1 So how do we take a marine program that was that
2 way for about 24 years and make it an inland or a statewide
3 program --

4 COMMISSIONER SCOTT: I have a quick question on
5 this?

6 MR. TODD: Yes?

7 COMMISSIONER SCOTT: The slide before where you
8 show the increase in incidents. Does that kind of go along
9 the fact that there's a lot more crude oil that's going by
10 rail? Or now let's see, am I not articulating that right.

11 So previously there was a lot less crude oil
12 coming into the state by rail, so you would think that
13 there would kind of less accidents, because of that. And
14 then we had that spike in how much crude oil was coming in.

15 And is it kind of a one-to-one thing here?

16 MR. TODD: I think I know what you're asking and
17 I don't know if I could answer it. I don't know to what
18 extent oil has displaced other commodities. I think that
19 would be the question?

20 COMMISSIONER SCOTT: Uh-huh.

21 MR. TODD: Our program is, in terms of
22 contingency planning and financial responsibility and
23 drills it's just oil. We don't have those mandates for
24 HazMat.

25 COMMISSIONER SCOTT: I see.

1 MR. TODD: So maybe if we did HazMat also we
2 could maybe -- like chlorine, chlorine tank cars, maybe I
3 could explain or answer your question.

4 Some of that it might just be the unfortunate
5 luck of the draw for rail, obviously the large incident in
6 Lac-Megantic in Canada. You know, it's hard to foresee
7 something that giant coming along.

8 COMMISSIONER SCOTT: Right.

9 MR. TODD: So I'm sorry, I can't answer that
10 easily.

11 COMMISSIONER SCOTT: No worries, thank you.

12 MR. TODD: So the main components of our program,
13 these are all by statute. Although prevention is in our
14 title we don't do a lot of prevention. The prevention we
15 do is mostly in terms of harbor safety. We have harbor
16 safety committees that we appoint and those committees are
17 responsible for developing a Harbor Safety Plan, which is
18 basically vessel traffic within the five major harbors of
19 the state.

20 We don't do prevention in the context of pipeline
21 design, rail tank car design, vessel design or operation or
22 equipment standards. So in that context we're not a
23 prevention office. What we mostly are is a readiness and
24 preparedness office and a response office. And I'll talk
25 about these elements in more detail.

1 So, when we became statewide the number one
2 challenge was this -- or the proposal to go statewide, was
3 how was this going to be funded, because we're just a
4 coastal program? And how would we expand it statewide?
5 And so our focus was oil coming in by ship essentially, and
6 a little bit of pipeline on the coast.

7 So the solution that the Governor and the
8 Legislature came up with was the same fee that we were
9 collecting before -- six-and-half cents per barrel. Crude
10 or petroleum that is now received at a refinery or a marine
11 terminal if the delivery system, which could be pipe, ship,
12 truck, tank car, if anywhere along its route posed a risk
13 to waters of the state.

14 That's probably just about every shipment. It's
15 hard to imagine a shipment that somehow didn't cross or
16 wasn't near waters, but it's possible.

17 So something else we had to look at was how many
18 new operators would be impacted by our mandates and what
19 constitutes a threat to state waters? We adopted a
20 quarter-mile distance, which is similar to federal pipeline
21 requirements. We estimate that there will be about 250 to
22 300 new operators or facilities or companies that will have
23 to comply. And you can sort of see the estimated
24 breakdown.

25 This is something we will have to explore over

1 time as we really figure out who really is or is not close
2 to state waters and looking at what their operations are.
3 Most of them, you can see are production facilities.

4 Gordon's slide showed that there were tens of
5 thousands of individual oil wells, but you know, some
6 companies own a lot of oil wells, so that this number is
7 much smaller than actual wells.

8 So we were required to establish standards for
9 their oil spill contingency plans. We were guided by Best
10 Achievable Protection, which is always something we review
11 periodically.

12 Again we don't get into the design and
13 construction of the facility or vessel, but it's more the
14 equipment used for response. We focus on the reasonable
15 worst-case spill that a particular vessel or facility might
16 have and use that as the basis for determining types of
17 equipment that they need to bring to an incident, the
18 percentages they need to bring within a certain time frame,
19 and the contractual arrangements for the cleanup services.

20 Their contingency plans also must address how to
21 protect environmentally-sensitive areas. Those protection
22 strategies on the coast are found in area contingency
23 plans, which are a federally led document. They'll be able
24 to identify particular estuaries or beaches or other types
25 of places. And then have strategies for how to deflect

1 oil, using boom or completely block off maybe an entrance
2 to a marina.

3 And then the last bullet there, use of a rated
4 oil spill organization. The statutes say that the plant
5 holders must use at least one rated OSRO. And we started
6 rating the cleanup companies around 2000. And I'll talk
7 more about the rating process and the OSROs.

8 So for inland, we had to come up with the
9 reasonable worst-case spill volume. And we weren't that
10 familiar with the inland oil wells and the inland oil well
11 operators. So one of our tasks was to figure out what is a
12 reasonable amount of expected spills. So we had to figure
13 out how much of these wells produce at any given time. So
14 we came up with a 10 percent daily average of the largest
15 producing well.

16 And I think we established a cutoff of 10 barrels
17 per day. So if a well operator produces less than 10
18 barrels a day we're not even going to regulate them,
19 they're too small to have the requirements. And there's
20 already going to be equipment and responders and
21 contractors and in the area anyway that could respond to
22 those, if it was spilled, from the really small operators.

23 So for inland pipelines we use a similar formula
24 and it can be a complicated formula, based on shutoff times
25 and flow capacity and tank volumes, so for inland

1 pipelines, a similar formula that we use for marine
2 pipelines.

3 And so for railroads we had to come up with a
4 reasonable worst-case spill volume. And we looked at some
5 of the recent incidents over the past five years or so.
6 And actually Wikipedia has a list of all the railroad
7 accidents in history. Not a totally scientific method, but
8 if you look at that, it seems to be a very comprehensive
9 list, a worldwide list. And we looked at just the freight
10 accidents. You know, not the passenger accidents, just the
11 freight accidents. And we looked at how many cars came off
12 the track.

13 And it seemed, for a freight incident, it seemed
14 to be around 15 to 20 or so that were coming off the track.
15 Not necessarily opening up, but at least falling off the
16 track. And if it falls off the track we consider that to
17 be a threat or a risk.

18 So we have come up with 20 percent of the oil
19 cargo in a train. So for a unit train, if you say that was
20 100 cars in a unit train, the reasonable worst-case spill
21 would be 20 cars. Obviously for a manifest train, which
22 has all sorts of different cargo in the cars then there
23 would be 20 percent of whatever they happened to be
24 carrying.

25 And then there's a few other miscellaneous types

1 of facilities that we've had to develop a worst-case spill
2 for.

3 So we had also looked at the bigger planning
4 picture, not vessel or facilities specific, but regionally.

5 Along the coast, as I said, there are these area
6 contingency plans. Their development is led by the U.S.
7 Coast Guard. With identified sensitive sites and
8 strategies to protect those sites.

9 But inland, USEPA is the lead for developing
10 those. And there aren't as many of them in the state. And
11 so we're going to have to work with EPA to develop them.

12 A current one being worked on is the Feather
13 River Canyon and it's collaboration of, like I said,
14 ourselves, EPA, and the two main Class 1 railroads. And
15 its focus is on rail and transportation risks, because
16 there aren't a lot of facility risks in that area. And
17 that development will involve the public and the locals.

18 COMMISSIONER SCOTT: Do you have a sense of how
19 many geographic response plans EPA would be developing for
20 California?

21 MR. TODD: I don't exactly, but it could be that
22 there is -- I don't have the list of the ones that
23 currently exist. There's one for the Tahoe area already. I
24 think there's one already for the Upper Sacramento River.
25 You know, if there isn't one that would be one. And then I

1 think there's one for the Colorado River, but not one for
2 the interior part of the state down there. You know, near
3 Inner San Bernardino or Imperial. So you could have a plan
4 for that part of the state to look at rail and transport.

5 These plans take a number of months or years to
6 develop, because you're really looking at the whole area.
7 You've got to identify the sensitive sites and come up with
8 some protection strategies that you think will work.

9 It's just that EPA's the lead and I know they are
10 tasked with a lot of other responsibilities also. This
11 influx of crude by rail is new to all of us, so we're
12 trying to catch up.

13 COMMISSIONER SCOTT: Yep, thanks.

14 MR. TODD: As I mentioned the oil spill response
15 organizations, these are the contractors that the operators
16 hire. Most vessels and facilities don't have their own
17 cleanup crew with cleanup equipment on hand, so they sub-
18 contract out.

19 And starting around 2000 we started rating those
20 companies. It's voluntary, they come to us, and they say
21 they can perform a certain type of service. And as you can
22 see, the services generally are on water, booming and
23 cleanup, shoreline protection. And there's a new one we've
24 had to develop for what we're calling "terrestrial."

25 So we'll do drills and inspections on these

1 companies to make sure that they have the resources ready
2 to go.

3 We require a certain percentage of their
4 resources to be dedicated, which means within the first six
5 hours. So if they say they can bring something within the
6 first six hours it has to be doing nothing but OSRO
7 cleanup. Or if it's assigned out to some other type of job
8 for that day, it needs to be able to drop whatever that
9 other task is or whatever that other contract is, and show
10 up.

11 So for inland, as a coastal program, the ocean is
12 always wet, there's always water there. The significant
13 challenge for us going inland is how do we deal with
14 locations that are not always wet? What type of equipment
15 should we require in a dry wash that's dry most of the year
16 and only has water in it seasonally? So we're developing a
17 terrestrial rating. It's mostly focused on like backhoes
18 and bodies, people coming out with shovels, and storage
19 bins.

20 And we have to develop response times for the
21 interior part of the state. You know, along the coast it's
22 all focused right on the shore and then offshore. For the
23 rest of the state we have to figure out what's reasonable
24 to expect folks to, maybe, get up into the Feather River
25 Canyon or get into Bakersfield or to get out into the

1 Mohave Desert. So that's been a significant challenge.

2 And because the plan holders subcontract for this
3 work we've directed a lot of our focus or our efforts on
4 the cleanup contractors themselves. So they are receiving
5 their service ratings by response planning area, which I
6 didn't spell out there, or counties within a response
7 planning area. And I'll talk about that in a little bit.

8 As I've said, we do drills: announced and
9 unannounced. And the industry also calls drills on
10 themselves too and they can get credit for that. All the
11 elements of an operator's contingency plan must be drilled
12 at least once every three years.

13 So there's a national drill program, NPREP.
14 National Response -- I forget what NPREP stands for -- and
15 so we mirrored the NPREP standards. But we also have some
16 specific California objectives. And with the only program
17 -- we've taken it as an opportunity to take a fresh look at
18 our current regulations and scale out, remove things that
19 didn't make sense or don't make sense anymore at this point
20 and time.

21 So the for the drilling rigs we've developed
22 tiers for drill objectives, and they're basically scaled to
23 the size of the operator. So if you're a small operator
24 posing a small threat the types of objectives you would be
25 expected to meet are different from a giant operator, like

1 a large pipeline or a tank ship.

2 So about a year from now, we'll be doing formal
3 rulemaking and we will take this tiering for drills and put
4 it to the (indiscernible) operators, so it will be at
5 statewide tiers.

6 So as I was explaining, moving inland, how are we
7 going to roll this out regionally? And we came up with
8 these response planning areas. The coastal ones were
9 basically essentially set and they followed the area
10 contingency plans. But for the interior of the state, we
11 decided to use boundaries that are the same as the local
12 emergency planning committee boundaries. We did that
13 because it tied -- it allowed our folks to coordinate
14 better with like local responders.

15 An alternative approach we thought about was
16 watersheds. That seemed to make sense too, but we decided
17 that the LEPC version would, with the better coordination,
18 seemed like the better bang for the buck.

19 So the response times where we've established for
20 contingency plans and the coastal cleanup contractor
21 ratings will be within each one of those planning areas.
22 So if a cleanup company wants to say they can provide on-
23 water cleanup in that entire planning area we'll drill them
24 and test them to see if they can actually accomplish that.

25 Or a cleanup company might say, "Well, within a

1 given planning area we're going to be really good in just a
2 couple of counties." So we'd say, "Okay. We'll give you a
3 rating for those particular counties."

4 Another key aspect of our program is financial
5 responsibility. The operators need to at least show a
6 minimum level of money available to pay for cleanup and
7 damages. Again, it's based on their reasonable worst-case
8 spill volume. And there are several methods they can use
9 to demonstrate that they have financial resources
10 available.

11 COMMISSIONER SCOTT: I have a quick question for
12 you there. Oh, that might be on the next slide.

13 I was going to ask you if it's the financial
14 obligation relies on the shipper of the crude oil, so the
15 railroad, for example? Or does it go to the person who
16 owns the oil that's inside the car? Or is it both?

17 MR. TODD: It's the owner or operator generally
18 is the one stepping up and providing the financial
19 responsibility. I think there are a handful of situations
20 where the owner has actually stepped up and provided the
21 financial responsibility. The significance of coming to us
22 and saying, "I want to be financially responsible," is
23 you're going to be financially responsible.

24 COMMISSIONER SCOTT: Right.

25 MR. TODD: So I think --

1 COMMISSIONER SCOTT: So it's the railroad or the
2 marine, not the refiner, who's ordered the oil to come to
3 them?

4 MR. TODD: Correct.

5 COMMISSIONER SCOTT: Got it, okay.

6 MR. TODD: It will be the ship owner or operator,
7 it will be rail company or operator. It would be the
8 refinery itself, as someone as a risk, because it's got
9 tanks. They'll have their own COFR, we call it a "COFR
10 Certificate."

11 COMMISSIONER SCOTT: Got it, thank you.

12 MR. TODD: It's not usually the owner of the oil.
13 So for facilities there's a formula we use and
14 it's generally the worst-case spill volume, which is
15 measured in barrels times either 12.5 or 10,000.

16 Again, we had to figure out what's appropriate
17 financial responsibility for the inland part of the state.
18 You know, a spill into a dry wash is probably generally
19 going to be a cleaner cleanup versus like cleaning up a
20 tide pool. It's much more expensive, much more difficult
21 to clean up generally, a coastal environment or an estuary
22 than it is to clean up a spill inland.

23 So you'll see that this 10,000 is used for inland
24 financial responsibility calculations, the 12.5 is for
25 coastal. And there is a maximum demonstration of up to 300

1 million. And you'll see that's the same for non-tank
2 vessels below. And tank vessels all have to provide a 1
3 billion, there's no variation there.

4 We are required to have an Oil Wildlife Care
5 Network. The UC Davis Wildlife Health Center administers
6 that for us, they do a great job. It's, as far as we know,
7 the only one in the world that does this. And as I said,
8 it's been coastal all these years.

9 The purpose of it is to have facilities and
10 treatment and care organizations just ready to go. So when
11 is there is a big incident or any size incident, we know
12 exactly -- it's like having hospitals. You know exactly
13 where you're going to take those oiled critters for care
14 and treatment.

15 So the network, UC Davis in particular, is going
16 to have to look at the inland part of the state now and
17 figure out, "Where are we going to need new facilities and
18 who are the organizations within the interior part of the
19 state that can provide care for oiled critters?"

20 And it's going to be a different set of critters.
21 You won't have marine mammals, really, in the interior part
22 of the state. I imagine it will be mostly mammals and
23 small mammals and birds. I suppose we could get bears that
24 get oiled, or mountain lions. We'd have to have facilities
25 that could handle those types of species.

1 Let's see, I covered that.

2 Not too much change for spill response. We've
3 been responding to spills statewide anyway for decades.
4 The Department of Fish and Wildlife has been mandated with
5 doing spill response for like since going back to the '30s.
6 So not much change.

7 For spill response we're the Incident Manager.
8 We oversee the cleanup. We have staff that will do a
9 Natural Resource Damage Assessment and that's an assessment
10 of the injuries to critters and habitat. There will be an
11 investigation to see if the incident should be handled
12 criminally or civilly.

13 And the spiller is responsible for the costs of
14 our department and any other state or local agency that
15 responds to the spill.

16 So we had to come up with new -- figure out where
17 we are going to locate staff. We went from, as I said, we
18 had basically three coastal divisions for staff, so now
19 that it's statewide we've broken it up this way. It's very
20 similar to the response planning areas. So we have six new
21 locations for staff and we're in the process of hiring
22 biologists and game wardens and oil spill prevention
23 specialists to occupy these places.

24 So we were required to establish emergency
25 regulations to roll out this new program. Those will

1 hopefully be on the street in just a couple of weeks. They
2 will be valid by statute. They are only valid for 12
3 months. And at that time we'll have to do formal
4 rulemaking in the next 12 months, once they come out, to
5 make sure that there's no gap. So when that 12 months
6 expires we will have rules ready to go or already out that
7 have gone through formal rulemaking. We anticipate
8 workshops for the formal rulemaking to occur in 2016 in the
9 spring.

10 The last couple of slides, the two Class 1
11 railroads and their trade group, the Association of
12 American Railroads, sued our office saying that as it
13 applied to rail our program was preempted. We obviously
14 disagree.

15 The case was just dismissed in June as not ripe,
16 because our regs are not out on the street yet, we are not
17 enforcing anything yet. But once our regs come out we know
18 they will re-file and at that point it will be ripe.

19 Something else we have been tracking, and I think
20 Paul is going to talk about this a little bit, the Federal
21 Pipeline Hazardous Materials and Safety Administration had
22 two rulemaking packages out last year. One had to do with
23 Tank Car Standards and the final rule came out earlier this
24 year, just a couple of months ago.

25 And the other package they had had to do with oil

1 spill contingency plans for railroads. It was an announced
2 Advance Notice of Proposed Rulemaking. It was basically
3 nine questions they were throwing out to the world, seeking
4 comment about the questions, about what types of revisions
5 should they do to their regulation about oil spill
6 planning? And our office submitted comments, as did a
7 number of other states.

8 So far PHMSA has not taken any action yet.

9 And then this year there were two federal bills,
10 which I don't think they're still active. And I don't know
11 if that means they are completely dead, but it would --
12 they are the same language. They would put the FRA or DOT
13 directly in charge of oil spill planning for railroads.
14 And that's actually a significant shift from the current
15 law. The current law says the President, in the Clean
16 Water Act, it says the President shall be responsible for
17 planning, oil spill planning within the nation.

18 And the President who was George H. Bush at the
19 time, he delegated those mandates to various Federal
20 agencies.

21 And so these two bills would basically take rail
22 planning, coastal planning for rail, and put it directly
23 with the DOT instead of the President. And that would be a
24 significant shift.

25 And also those two bills had very open ended

1 mandates or directions to DOT. It just said -- I forget
2 the language exactly -- but it said something like, "Just
3 the revise the oil spill planning." It was really open
4 ended and vague, no specificity about how to revise or what
5 to look at. As I said, with these bills I don't think are
6 active anymore, but I don't know if they can also be
7 resurrected.

8 And so that's where we're at. Any questions?

9 COMMISSIONER SCOTT: Awesome. I did have a
10 question for you. I'm not sure if you're the person who
11 helped put together the Oil Spill Contingency Plan
12 Revisions? You mentioned that they had nine questions,
13 PHMSA did that they were asking folks about.

14 Is there any you can highlight from us about the
15 revisions you might like to see or if you're not in the
16 weeds on that one, that's fine too.

17 MR. TODD: At the time I was in the weeds.

18 Our comments were essentially -- and if you would
19 like to see the comment letter we can certainly provide it
20 to you.

21 COMMISSIONER SCOTT: Okay.

22 MR. TODD: Our comments were essentially that we
23 think California has got a good program and we would like
24 the federal regulations to be more aligned to what we have.

25 The Federal Railroad Oil Spill Plan requirements,

1 there are two plans that a rail operator might have to
2 develop depending upon the amount of oil they are
3 transporting. Neither one of them is -- I mean, they're
4 required, but the actual requirements are pretty minimal,
5 compared to what a lot of other states want to see in a
6 plan. And so our comment was essentially that their regs
7 should be beefed up to be similar to ours or at least some
8 other states.

9 For example, the FRA does not review or approve
10 Federal Rail Plans like we do. I think the FRA checks to
11 make sure they have a plan, but they don't do any
12 substantive review.

13 COMMISSIONER SCOTT: Great, thank you.

14 MS. RAITT: Any more questions?

15 COMMISSIONER SCOTT: I asked all the rest of mine
16 as you were going along.

17 MR. TODD: Sure.

18 COMMISSIONER SCOTT: Thank you so much for your
19 terrific and informative presentation and for joining us
20 here today.

21 MR. TODD: Thank you.

22 COMMISSIONER SCOTT: Let's see. I would now
23 like to welcome Paul King, who is the Deputy Director of
24 the Office of Rail Safety at the California Public
25 Utilities Commission. Welcome, Paul.

1 And while he's making his way up I'll just remind
2 folks, if you'd like to make a comment the blue cards are
3 on the table at the front of the room. And just please
4 fill one out and make sure you get it to the IEPR team and
5 they can let us know that you'd like to make a comment.

6 MR. KING: Thank you, good morning.

7 Just a real quick background, the California
8 Public Utilities Commission originally was the Railroad
9 Commission and during the reform of the early 1900s and
10 1911, under Hiram Johnson, led an advance in railroad
11 safety at the time. We still have some of those
12 regulations on the books and are enforcing them, mainly
13 employee safety, because the Federal Railroad
14 Administration, who we work with, has pretty much covered
15 the field otherwise. And I'll get into that a little more.

16 Just to jump quickly to an overview here, I want
17 to first apologize for not expanding these acronyms. FRA
18 is the Federal Railroad Administration. PHMSA, P-H-M-S-A,
19 is the Pipeline Hazardous Materials Safety Administration.
20 And NTSB is, of course, is the National Transportation
21 Safety Board. CPUC is California Public Utilities
22 Commission.

23 And our role, as easily summarized as different
24 from OSPR, is that we're charged with preventing accidents.
25 We don't get into emergency response or response. And in

1 doing so, we're directly with the FRA who has the same
2 purview.

3 To review some of the crude oil accidents, this
4 wasn't news, this was not a story over two years ago. On
5 July 5th, two years ago just this month, it became quite a
6 story during the tragedy in Lac-Megantic where 47 people
7 were killed and as you can see in the picture, Downtown was
8 destroyed.

9 Since that time there has been somewhat of a
10 succession of the tank car accidents. Most notably, on the
11 lower left, you have the Casselton, North Dakota one, which
12 seemed to really catch the attention in the U.S. beyond the
13 Canadian one. That incidentally was a derailment of a
14 grain train on a parallel track with a crude oil train.
15 The crude oil train, coming the other direction, ran into
16 the derailed cars.

17 What really caught Washington's attention was the
18 lower-right picture there, Lynchburg Virginia, where one
19 exploded right on the river there in the town.

20 Then notably the Mt. Carbon derailment -- three
21 cars derailed and ruptured. Well, I think about 13 cars
22 derailed, but 3 cars ruptured. And the ensuing pool fire
23 caused another 10 cars to heat up and expand and explode,
24 one after the other, for about 10 hours after the
25 derailment, which is a significant point of the New Tank

1 Car Standards requiring thermal protection to try to
2 prevent that.

3 The middle upper-photograph shows damage up in
4 Canada where a train -- you can't see the bridge, it's in
5 the smoke there -- but the derailment itself and the heat
6 from the fire totally destroyed a steel bridge; warped it
7 completely. And you can see the big, dark area on the
8 upper right on the river, it fouled the river pretty badly.

9 The most recent explosion was May this year in
10 Heimdahl, North Dakota; that's that lower middle slide.

11 And of course, just in the news, not in time for
12 these slides. But a fortunate accident in the derailment
13 in Montana where there was no fire, no ignition, and no
14 explosion, but it was in a crude oil train. That was last
15 Thursday.

16 And not to forget ethanol is every bit as
17 dangerous. In fact, of all the crude oil accidents, only
18 the Canadian Lac-Megantic one had fatalities. Ethanol,
19 there were fatalities, I don't know if you can see in that
20 upper-left picture, but there's a minivan right at the
21 crossing. There was a fatality to the driver in that
22 minivan.

23 It's notable, also when you have a derailment the
24 cars usually accordion up. One car will derail and the
25 cars behind keep moving until they stack up in accordion-

1 like fashion. And yes, we did have an ethanol incident in
2 California up in the Tehachapi Pass that ruptured an
3 ethanol car and lit that and a car of plastics on fire that
4 burned for about a day.

5 The lower-right side, of course, shows the power
6 of an ethanol derailment and explosion. It's quite
7 impressive. If you look very closely, you might be able to
8 see the sides of the rail car on the bottom there.

9 So the risk to California, why is this relevant
10 to California? Well, obviously the populations. We have
11 trains going through highly-populated areas. It's not a
12 coincidence populations grow around rail hubs for good
13 reason.

14 The cities listed there, all the cities you might
15 expect. Some are not listed, that I found a little
16 surprising, but I guess they didn't hit the thresholds.
17 And that would be Central Valley, basically from I think,
18 Stockton down through Bakersfield are not listed here.

19 Then of course, environments: rivers, reservoirs,
20 bays, coastline. Rail lines tend to follow rivers and, of
21 course, go through and along bays and down the coastline.
22 And including bridges over reservoirs. I think the
23 Oroville Dam and Shasta are two very significant ones.

24 After the Dunsmuir Spill in 1991, where a carload
25 of herbicide derailed at the Cantara Loop above Dunsmuir,

1 it poisoned the river for about 40 miles. It killed every
2 living thing in the river, including some invertebrates
3 that have not returned.

4 The PUC was charged with determining what were
5 high-risk areas in the state -- high-risk for derailment.
6 It was termed "Local Safety Hazards" at the time, because
7 there was a provision in federal law that the state could
8 regulate, even though the federal government has regulated,
9 if it was a local safety hazard. So we've identified
10 several of these, they are listed here. The most important
11 ones are listed here.

12 Unfortunately, it seems, there are no local
13 safety hazards anywhere. A law was drafted or adopted in
14 1970, and none have been identified since then. They've
15 all lost in court, including us. Fortunately, we did
16 settle on regulations for the kind of accident that
17 happened at Dunsmuir.

18 So we have the Sacramento River, high incidents
19 of derailments, quite a spike around the Cantara Loop,
20 historically.

21 The Feather River Canyon, coming down from
22 Portola, through Quincy into Orville and down into
23 Sacramento; between Lake Almanor, that's the line that
24 comes down from Oregon.

25 Klamath Falls, that is the Bakken crude oil

1 route. Of course, we're not getting any right now. If you
2 look closely at Gordon's slides you could see the bar that
3 represented the Bakken no longer was there since November.

4 Donner Pass, you all are aware of Donner Pass.
5 It's the one that comes right in to Roseville and then
6 Sacramento. It does not parallel major waterways as much
7 as the Sacramento River and Feather River routes, but it
8 still comes through obviously, high-populated areas.

9 Cuesta Grade, north of San Luis Obispo, that's
10 that steep grade just before you arrive in San Luis Obispo.

11 Tehachapi Pass is the main North-South route for
12 California. Very little freight goes on the coast.

13 Then Cajon Pass, steepest grade in California,
14 that and Tehachapi are probably the two heaviest travelled
15 lines in the state. Cajon Pass feeds into the L.A. area, a
16 primary route into the L.A. area.

17 Beaumont Grades, that's the southern route, the
18 old Southern Pacific-Southern route. It goes up from Palm
19 Springs, tips at Beaumont and then comes down in to San
20 Bernardino area.

21 Then the Miramar Grade, just north of San Diego.

22 These all have statistically significant
23 historical concentrations of accidents. If you were to
24 predict where they occur you would pick these spots.

25 The analysis was originally done about 1994

1 through '97, something like that, but it still has
2 predicted well accidents since that time.

3 And here's a map that depicts -- I don't know how
4 well you can see that, but the dark orange areas show
5 population concentrations by deepening shade of orange.
6 And if you can see on some of the rail lines, there's a red
7 or orange outline, in some places both, that shows where
8 historically the accidents have occurred.

9 The one on the line, upper-part of the state to
10 the left, that's the Dunsmuir area. The line on the upper-
11 right coming down, first you have the red area, that's the
12 Almanor to Greenville and then the Feather River Canyon
13 coming down towards Sacramento. And right below that you
14 can see Donner Pass, that red area is between Colfax and
15 Casa Loma, I believe. And that's primarily, as most of
16 these are, the steepest and curviest part of the line is
17 where you have the most end-train or derailment forces
18 occur. Of course, they come all through Sacramento down
19 through the Bay area there.

20 Southern part of the state, most significant here
21 is Tehachapi Pass. That's right about the middle of the
22 photograph just east of Bakersfield on the line that's
23 headed east. Then to the left of that is Cuesta Grade.
24 And I don't know if you can see down below to the right of
25 the L.A. population centers, you can see a red area there;

1 that's the Beaumont Grade. And below that it's San Diego-
2 Miramar Grade.

3 So I was asked a question recently by a
4 California State Legislator about, "Well, we haven't seen
5 any of these trains explode in California. You know, why
6 are we concerned?" Well, you can't predict where the next
7 accident is going to occur. You can't predict when it's
8 going to occur. It's a matter of volume of trains that
9 you've seen. Some of the spikes yes, I would say that's
10 somewhat correlated, just to the volume of trains. Things
11 are going to happen: wheels wear out, track breaks, these
12 are heavy trains.

13 So I think the juxtaposition of these two
14 pictures is informative. That's a Bakken crude oil train
15 in June 5th of last year going through the Feather River
16 Canyon without incident.

17 November 25th, a train loaded with grain
18 fortunately, similar tonnage, similar weight, similar
19 forces on the track, ended up triggering a rail break. It
20 was a defect that was there, but it triggered a rail break
21 and you can see the result. It was simply a matter of luck
22 that it was this grain train and not a crude oil train.

23 So I want to spend most of my time talking about
24 the federal regulations, because they are significant and
25 they took a lot of work. We commented, spent a lot of time

1 commenting, advocating for the stronger portions of the
2 rule. And I think, overall they came out with some very
3 significant improvements.

4 They were adopted May 8th and they went into
5 effect just July 7. Now, of course, there are timelines
6 for a phase-in. You can't rebuild the whole tank car fleet
7 overnight, obviously, so the Federal Railroad
8 Administration and PHMSA set out a timeline they figured
9 would be manageable.

10 So the scope, and it doesn't address all crude
11 oil tank cars, it addresses high-flammable liquids
12 including ethanol. This was a major step up, to include
13 ethanol and any other highly flammable liquids that are in
14 a continuous block of 20 or more cars or if you have a
15 total of 35 in your train.

16 Now, one of the reasons -- and I was involved
17 with the original Railroad Safety Advisory Committee
18 negotiations and rulemaking on this -- one of the reasons
19 is that the Federal Railroad Administration set this was it
20 was one way to capture the most risk with the least cost.
21 The most bang for your buck, to be able to actually get it
22 through some fairly onerous cost benefit criteria in the
23 Office of Management and Budget. But also, maybe more
24 importantly, they realized that the most of this oil
25 shipment was by solid trains of oil. They were not mixed

1 in with regular freight. So this would capture almost all
2 the shipments and the ones that where you see these 100 car
3 long trains, it would capture all of those.

4 Same thing for the next one, it's a subset of the
5 definition. It's a high-hazard flammable unit train,
6 meaning it is all flammable liquids and nothing else, but
7 the threshold here being 70 cars. Most of them we see are
8 100 cars, so it was meant to capture all of those.

9 Obviously, you could avoid the requirements for that by
10 running 69 car trains and time will tell.

11 So splitting it into two primary safety areas:
12 enhanced braking and Tank Car Standards are improved by
13 this rule. The requirements require major improvements.

14 One, any high-hazard flammable train must have an
15 end-of-train device. I hope this won't be too much
16 information, but I think it's important to walk through
17 just how trains are braked, how they are slowed.

18 It's an air brake system, where the brakes are
19 signaled to apply, the brake signal is a decrease in air
20 pressure. And that comes from the locomotive. So if you
21 have a decrease in air pressure starting, and the
22 locomotive will signal all cars to brake, it takes quite
23 awhile to get to the back to the very rear car of the
24 train. When you have 100 trains (sic) it's a matter of --
25 well, it's quite a long time. If we were to sit here and

1 count off 15 seconds it would seem forever in order to
2 apply the brakes.

3 End-of-train device, when they took the conductor
4 off and the caboose off the train, you no longer had
5 somebody back there to tell you how much air pressure you
6 had in the train line throughout the train, which was
7 important. But you also didn't have somebody back there in
8 case you had a failure of the train line system somewhere;
9 a blockage, for example. You didn't have somebody back
10 there to put the train into emergency brake application.

11 So EOT, end-of-train device, is a telemetry
12 device to replace the caboose and the conductor, basically.
13 And it would apply to brakes, not only from the head end of
14 the train, but from the rear end of the train by telemetry.
15 And it also gives you a read-out of air pressure.

16 DP locomotives, Distributed Power, DP stands for
17 "Distributed Power." That's where you have locomotives at
18 different locations in the train, probably mostly at the
19 head end and rear end, but then some trains will have
20 another set cut in middle.

21 And what that does, is again, by telemetry it
22 allows for emergency brake applications at those locations
23 at the same time as the head end locomotive. But it also
24 allows you to use the brakes in a non-emergency way, also
25 controlled at those three locations, so it's more

1 responsive.

2 But the greatest improvement that is required by
3 this rule goes to these high-hazard flammable unit trains,
4 where you could have a unit train -- a high-hazard
5 flammable train -- but if you have one car of the highest
6 flammable like Bakken Crude or ethanol by January 2021 you
7 must have electronic control braking system, which
8 transmits the signal to each car, to every car,
9 simultaneously electronically.

10 And by 2023 all trains over 70 cars -- if you
11 recall, high-hazard flammable trains of over 70 cars --
12 have to have electronically controlled brakes. This is a
13 huge improvement. Basically, taking a system that's in
14 existence today, but was invented in, well about --
15 patented in 1872.

16 COMMISSIONER SCOTT: Well, I have a question for
17 you there, 2021 and 2023 seem kind of far away. Is there a
18 reason why the timeline is so long?

19 MR. KING: They'll have to retrofit old tank
20 cars. And they'll have to build new ones with the
21 electronic braking control systems on them. And they also
22 have to retrofit locomotives and any new ones will have to
23 have those systems. My sense is that the Federal Railroad
24 Administration looked at how long it would take, what it
25 would do to the fleet if you required it too soon and how

1 that would impact the cost benefit. And this is what they
2 did in order to meet all the criteria that they have,
3 actually, to get a regulation out on to the street, so to
4 speak.

5 COMMISSIONER SCOTT: Uh-huh, thanks.

6 MR. KING: So, just to start very quickly, the
7 first train brakes were a bunch of brakemen running along
8 the top of cars twisting hand brakes to signal the engineer
9 to release and to tighten, very dangerous, especially in
10 bad weather. The life expectancy of a brakeman was very
11 short.

12 The air brake system was invented and developed,
13 called "straight air" that pumped air from the engine into
14 the brakes to apply the brakes. But as you can imagine, if
15 the air brake hose broke you would have no brakes, you
16 would run down the hill uncontrolled.

17 So George Westinghouse invented what's called the
18 automatic air brake, where it was reversed. You fill
19 reservoirs on each car with about 90 pounds air pressure by
20 pumping into the train line. That releases, because
21 there's what's called a triple valve, it makes that valve
22 slide so it releases any air out of the brake cylinders.
23 Your brakes are completely released the car is charged with
24 air. You take air out of that brake line and the triple
25 valve slides over, allows the air from the auxiliary

1 reservoir to go into the brake cylinder. So if you ever
2 brake the train line all the brakes go on it completely,
3 it's a fail-safe mode.

4 One of the problems with that is if you set and
5 release the brakes too often you can't charge that
6 reservoir, you run out of air. And there you go down the
7 hill, uncontrolled.

8 Now, we've had several dramatic accidents in
9 California. Not recently, I think they're '89, '94 and
10 '96, during that time frame there was about four of them.
11 Three on the Cajon Pass where we had runaway trains. One
12 of them ended up with about six fatalities in the town of
13 Muscoy. I don't know if you recall that, 1989, where a
14 train ran uncontrolled down the hill, crashed into a
15 neighborhood. And during the cleanup a gas pipe line was
16 ruptured. Cima Grade had a runaway too, a runaway, down
17 from Las Vegas.

18 So, electronic braking has a great number of
19 features, mainly to have the electronic signal to set the
20 brakes. It's done simultaneously.

21 And most notable for the FRA's extension of the
22 requirement here is that it's extended to unit trains,
23 because the most cost-effective way to implement this new
24 braking technology is to do it for all cars in unit trains;
25 not all cars in the country. But these unit trains that

1 stay together they are not switched, so you can keep from
2 having to retrofit the entire fleet.

3 Shorter stopping distances -- up to 70 percent
4 shorter stopping distances -- as I said before, the brake
5 signal is light speed instead of the speed of sound or
6 slower. The brakes apply simultaneously.

7 And when you have a derailment, rather than
8 having that big stack up of cars behind the derailment,
9 because the cars behind you -- the brakes have not applied
10 yet -- all the cars apply when one car's brakes apply in a
11 derailment. And it'll decrease the number of cars that end
12 up in a pile.

13 Also, because the air line is charging the entire
14 time, you don't set the brakes by pulling air out of the
15 train line, it's always charging. The brakes are
16 controlled electronically, so you can release the brakes
17 and set, release and set, without worrying without
18 depleting the reservoir like you did with regular brakes.

19 And because air leaks and trouble with the triple
20 valve, which is quite sophisticated -- it has been improved
21 over the last hundred and so many years -- it's quite a
22 sophisticated valve, but any problems with that can cause
23 undesired brake applications, which in and of themselves
24 can cause derailments.

25 Also improves train handling. Some of the

1 problems in these mountain grades are you have a run in and
2 run out of slack in a train. There's about 100-to-150 feet
3 of slack in a train. And you can simultaneously brake each
4 car to better control that. And thus, control if you have
5 slack run in, for example, coming downhill it will cause
6 the cars to buckle out. And we've had many instances of
7 that, actually, in California.

8 We also reduce brake shoe wear, because instead
9 of for example, Donner Pass, in order to keep from losing
10 your air pressure, so to speak, you'll leave the air set
11 the whole way in. And when the grade lessens a little bit,
12 you have to apply power and drag the train down the hill
13 with brakes applied. So this eliminates that.

14 For the same reason, you'd reduce fuel
15 consumption. And you also have electronic monitoring of
16 every car, which opens up a whole new era of electronic
17 monitoring.

18 Also, before braking, you used to have to go back
19 and set what are called "retaining valves" to retain the
20 air pressure, so you wouldn't lose it on steep grades on
21 the cars. You no longer would have to do that.

22 So tank cars -- the other part of this --
23 stronger, better tank cars. There are thresholds now,
24 timelines required here, for both the new tank cars and for
25 retrofitting existing ones. They must follow a

1 prescriptive schedule that's outlined entirely in the
2 regulation. And they must provide information to the
3 Federal Railroad Administration and PHMSA if they would not
4 be able to meet that timeline.

5 And just to go over some of the features here, to
6 start off with the tank shell, you can see in the upper-
7 left expansion on that picture, the tank shell has to be
8 thicker. It's an increase from seven-sixteenths to nine-
9 sixteenths. And that's not linear protection. It depends
10 on the square of the thickness. So you're getting instead
11 of maybe 30 percent more resistance to puncture, you're
12 getting 65 percent or something like that. I don't know
13 the exact figures.

14 And then I mentioned thermal protection to keep
15 the car cooler longer, while there is a response to the
16 derailment. Insulation will be required. And then, of
17 course, there's a steel jacket required on the outside of
18 that insulation.

19 A head shield is required. In fact, I believe
20 most of the cars being built now to the AAR standard --
21 American Association of Railroad Standards -- have head
22 shields. A head shield simply protects the end of the car.
23 If you notice the coupler sticking out on both ends of the
24 cars down near the wheels. In a derailment, when that
25 slips off in the derailment, it's been a problem

1 historically where the coupler has then punctured the end
2 of the tank car. The head shield serves to prevent that.

3 Also, the top fittings and bottom fittings are
4 both to be designed, so that they don't open in a
5 derailment. They'll make them more resistant to shearing
6 off, but also originally even the handles were set that
7 when you slid along the ground it would open the valve. So
8 that's all been changed in the new standard.

9 Additionally the new standards call for
10 restrictions in speed. Again, reductions in speed give you
11 more than a simple linear measure of the speed. It goes to
12 the -- a force of impact depends on the square of the
13 speed, so you get great reduction by slowing the trains
14 down.

15 And there's a problem here though, because at
16 some point if you slow trains down too much you slow down
17 the entire throughput of all freight in the nation. So
18 this has been a tough choice for the FRA to balance.

19 Also, part of the problem that surfaced in the
20 Lac-Megantic accident was that the product was
21 misclassified. It was more flammable than some of the cars
22 were labeled. So there's been quite a bit of work not only
23 in appropriate classification and placarding of these cars,
24 but also in testing. When you pull product out of the
25 ground it is not consistent from one day to the next, one

1 well to the next, one part of one well to the next. Unlike
2 a manufactured chemical, which meets a standard. So it
3 needs to be tested so you know exactly what you have.
4 PHMSA has done a lot of work on this and now it's required
5 in the regulations to be a lot tighter.

6 Rail routing --

7 COMMISSIONER SCOTT: I had a quick question for
8 you on that.

9 MR. KING: Yes?

10 COMMISSIONER SCOTT: I noticed that it said the
11 high, what was it, urban areas? And I wondered, you had a
12 bunch of areas that are not so urban on a map a few slides
13 back that had that red, because there's lots of curves or
14 because it's very steep. Will that speed also slow down a
15 bit, they probably already do, I hope slow down in those
16 areas?

17 MR. KING: Almost all of those have a track speed
18 of 25 miles an hour already.

19 COMMISSIONER SCOTT: Okay, all ready. All right,
20 so that's -- got it.

21 MR. KING: And that's simply because they're too
22 curvy to go faster.

23 So but for the overall risk 27 factors have to
24 considered, and a route selected with the lowest risk.
25 Unfortunately in most areas you don't have a whole lot of

1 choice. You might have a little bit of a choice to go
2 around Sacramento, for example, but then you go over a
3 bridge. So I don't know how this one will work out. This
4 is something that we'll all be looking into and following.
5 But some of the routes are that's probably just what you
6 see is what we'll get.

7 Now, one of the issues that we've probably done
8 the most work with was notification. Originally in May
9 2014 the Federal Railroad Administration and PHMSA came out
10 with an -- well, I guess it was the FRA -- came out with an
11 Emergency Order requiring the railroads to notify a state
12 emergency response center, or what's called an acronym, of
13 "SERC" of the shipments expected in the next week for
14 Bakken crude oil trains. Unfortunately, that ended up
15 being something that didn't actually provide you with very
16 good information. And I'll get into that in a minute.

17 But first, just to tell you what the new rule
18 does was the new rule -- now there's a tension between SSI,
19 Security Sensitive Information, and providing information
20 to the public. There's some information that the general
21 public does not get, because it would present a danger to
22 the public if that information were to fall into the wrong
23 hands. Critical infrastructure or highly sensitive
24 information, that if the people with bad intentions found
25 it, it could give them a leg up on doing some harm.

1 So that's one backdrop and it's a hard one for
2 the railroads to handle. They know, they have to know,
3 they know the information about what's in every train, they
4 know where every train is. And that's information that,
5 certainly, in a need-to-know basis, emergency responders
6 should know it. Should the general public know it?
7 There's where the debate lies.

8 But what happened here was, also because the
9 railroads didn't want to be out of compliance what happened
10 in the Emergency Orders is the information ended up not
11 being helpful to emergency responders, so the PUC
12 originally objected to how that was being interpreted by
13 the Federal Railroad Administration.

14 When the new rule came out it tried to address
15 the Security Sensitive Information issue, and in doing so
16 it moved most of this information into an existing
17 regulation where the emergency responders must contact the
18 railroad. The onus went from the railroad notifying the
19 emergency responder -- it was reversed -- the emergency
20 responder must contact the railroad. And it did not give
21 much detail on what information the railroad had to give.

22 In other words if you called them every day and
23 said, "What's coming tomorrow?" they wouldn't necessarily
24 -- it's not specified what the response has to be.

25 So the new rule would have had the Emergency

1 Order expire next spring. But a Congressional Delegation
2 objected, and I think it was nine senators, and said, "Oh
3 no, don't go there." And PHMSA decided that it would keep
4 that Emergency Order. And it's my understanding, they're
5 working on making it permanent and working on the issues
6 that have been identified here between the new and the old.
7 And are likely to come out with the ANPRM or an NPRM or
8 they might send it to the Rulemaking Committee.

9 So here is a summary of the two: the new rule
10 does cover ethanol, but again like I say it changes the
11 dynamic of who tells who. The Emergency Order only covers
12 Bakken crude shipments. So we're kind of at an odd place,
13 right at the moment.

14 Just to go into the notification issue. This is
15 the first notification Cal OES got. They made it public,
16 they looked at the interpretations of the law and they
17 decided it could go public. The railroad was not happy
18 with that, but the FRA agreed it was not Security Sensitive
19 Information.

20 And I would have to agree, because it's hardly
21 any information. "A train was on the way." This is
22 supposed to tell you what you should expect, emergency
23 responder, "A train was on its way." It wasn't in
24 California yet. And that's the information they got.

25 All the counties in California, all zeros. "This

1 is one for the next week." And what that was the train had
2 not gone the previous week and they are basing on
3 historical. Now, here's the next week and it showed the
4 train came. But that week that this is supposed to be
5 projecting, no train came.

6 So you've got the opposite information from what
7 you wanted.

8 And over on the left was something that I really
9 didn't know what they meant. I thought zeros and nines
10 were maybe computer fillers for nothing. It was simply
11 that they said, "You could get from zero to nine trains."
12 One time they had, I think, seven after a snowstorm blocked
13 trains in North Dakota. One time, one week they had seven.
14 And they just added a couple, just for safety I guess.

15 There's the route you got. There's the routing
16 information that was on an 8 1/2" by 11" page and that's as
17 good as you got.

18 We worked with Cal OES on that. And obviously,
19 I've been 45 years in the industry, so we were able to pin
20 that down real well with the time tables and so forth. We
21 worked with the Federal Railroad Administration and we
22 still are. It's gotten pushed into a larger issue with the
23 new rule.

24 To get information, you saw the previous maps
25 that we generated through GIS systems, and when you pull

1 those up you can get all the highways, all the towns, all
2 the rivers, all the critical infrastructures, such as
3 hospitals, seniors. Whatever you want, you can get on GIS
4 system. You can get it and pin it right down to that rail
5 line and you can make it correspond with this. And
6 emergency responders have wonderful source of information
7 that will get them right to the milepost, right to the
8 spot, that they otherwise would not have the information.

9 We've been working on that. Unfortunately,
10 change of personnel on the railroad, it slowed down a bit,
11 but it's still a work in progress and I am optimistic we
12 will get the right information out there.

13 But the status of these rules, it's all not
14 behind us. There are timelines for implementation. We
15 have a long wait on some. As you mentioned, 2023 is a long
16 way away. The Emergency Order and Notification, they're
17 still working on it.

18 The AAR, Association of American Railroads, has
19 appealed the ECP Brake Requirement. And on the other hand,
20 they would like to not allow just any tank car to carry
21 these flammable commodities in the fewer than 20 or 35-car
22 thresholds.

23 One way to summarize these is you can well
24 predict any parties opinion about the new rules by how much
25 it costs them. The ECP brakes will cost the railroads

1 money. They have to retrofit their locomotives. Tank
2 cars, they don't own the tank cars. Then the American
3 Petroleum Institute has appealed for more time to make tank
4 car retrofits. Their shippers don't want to be slowed
5 down.

6 On the other hand, environmental groups want the
7 tank cars phased out sooner.

8 And we have current discussions with the FRA and
9 railroads and Cal OES about the notification requirements.

10 So let me just try to quickly -- NTSB has been
11 involved since the beginning. I'll just let you read this
12 list at your leisure, including the latest one is the
13 thermal protection for tank cars.

14 Federal RSAC Administration immediately came out
15 after the Canadian accident with emergency committees,
16 emergency orders. I participated and am on that RSAC
17 Committee as the one state rail safety member, with 67
18 other members.

19 Early PHMSA, PHMSA was very concerned about the
20 classification of the oil and it has done a lot of work
21 there, very early and continuing.

22 Here is a timeline if you want to go through it.
23 The FRA has been very busy, I wanted to make sure they got
24 due credit for the activity that they have put into this.

25 And here's the summary that I believe I've gone

1 over, but all of these are still in effect, including even
2 the administrator meeting with the railroads after specific
3 accidents and pretty much saying, "Tell me how you're going
4 to keep this from happening again."

5 And we'd focus on inspection with state programs.
6 We have the inspection program here that's critical to
7 prevention.

8 And our agency working group was gathered to get
9 all state agencies that could have some part of the crude
10 oil transportation into California look for gaps that might
11 exist between the agencies and coordinate the agencies. I
12 must say, it's been a great program. I've learned a lot by
13 sitting down at the table with OSPR, with Gordon, and all
14 the other folks that are at the table.

15 CPUC, we have 45 FRA-certified railroad
16 inspectors. That's more than the FRA in California. And
17 the primary prevention here is these accidents are caused,
18 not by the crude oil, but by failures of track, equipment,
19 operating rules. These first five here are the disciplines
20 for FRA Certification of Inspectors. Plus we have State
21 Regulations from Employee Safety. And we have the first
22 Bridge Integrity Observation Program. We're working with
23 the Federal Railroad Administration and we're the first and
24 only state to have such a program.

25 We also do accident analysis and risk management,

1 because it's simply not a matter whether there is a
2 regulation, it's a matter of whether it's safe or not,
3 whether we need to attend to it.

4 Let me just highlight the one here -- I know I'm
5 a little over time. I'll highlight the one I'm
6 particularly proud of. That wasn't my doing, our Program
7 Manager for the Railroad Operations and Safety Branch that
8 has those federal inspectors, developed a Crude Oil
9 Reconnaissance Team that actually before the Plains All
10 America went into service, well before that, when the plans
11 were just coming, when the permits were being filed they
12 started reviewing that. And found some things, quite a
13 number of things that we believed helped enhance the
14 safety.

15 We also have focused inspection. And like I say,
16 we are involved on the Federal Rail Advisory Committee
17 rulemakings. We have quarterly meetings with the railroads,
18 we bring up topics. And we mostly bring up topics of non-
19 regulation. If it's regulated it's cut and dry. You've
20 just got fix it or you can get a defect or a violation or a
21 fine. But issues that are not being regulated we address
22 directly with them.

23 This is out on the Button Willow Branch that goes
24 out to the Plains All America near Taft. You can see
25 upper-left our inspectors looking at a split stringer beam;

1 that bridge was rebuilt.

2 Lower left, the rail that was out there, it was
3 the measure strength is by pounds by yard: 1897 rail, 75
4 pounds per yard is what was in there. And it's upgraded to
5 136 pound new rail.

6 Up in the upper-right what you see going over the
7 track is Interstate 5. You've probably gone over that
8 quickly, as everybody seems to do. But as you notice, the
9 pillars supporting that are very close to the track. If
10 there were a derailment there our concern was -- no
11 regulation -- our concern was you take out a pillar you've
12 lost a major part of infrastructure and possibly created
13 quite a disaster.

14 So in formal talks with the railroads, and
15 actually no pushback, they decided to go ahead and put a
16 guard rail in there. A guard rail means there's two extra
17 rails in the middle. If the train becomes derailed the
18 train, the car won't continue to go off the track, it'll be
19 guided along the on the ties and make it through to the
20 other side. We'll use those on all bridges, all bridges
21 will have a guardrail like that, for that same reason.

22 And so finally just other activities, notably
23 here supporting Senator Wolke's bill to require at least two
24 people on the locomotive of a train. We believe, to
25 summarize that, just like there are two cooling systems for

1 a nuclear power plant, two pilots in the cockpit of an
2 airplane, we believe that the redundancy is necessary on a
3 crew. Plus the tasks that a crew has to perform would
4 provide too much information overload and task overload on
5 one person.

6 So I'll leave it at seven minutes past time and
7 for any questions.

8 COMMISSIONER SCOTT: Well, this is another
9 excellent presentation.

10 I did have one more question for you. I asked
11 most of mine as we went along. You know, you showed us the
12 forms back here on slides 24 through 26, the type of
13 information that you've been getting. How can we get
14 better information or information that would be helpful in
15 this space?

16 MR. KING: Well, we started off by filing a
17 defect with a violation recommended. And when the railroad
18 started working very cooperatively with us to -- in fact, I
19 had a draft showing that they were -- It was by a person
20 that subsequently retired, unfortunately that showed a
21 layout of information that would give us exactly what we
22 thought the emergency responders would need. Unfortunately
23 he did retire. Part of the problem for that railroad was
24 that he wanted to automate it for their entire system, so
25 then they ran into some automation problems.

1 The Federal Railroad Administration read their
2 own Emergency Order and the Frequently Asked Questions
3 about that Emergency Order such that this complied. So we
4 had a disagreement.

5 My understanding is, informally, we've resolved
6 this disagreement and that it's proceeding ahead very well,
7 very constructively. I don't know, quite yet. And it's
8 all happening informally and there maybe something up
9 formal on it soon. But what can we do to do it? Well,
10 we're in talks with the Federal Railroad Administration
11 about this. We've communicated with them, we've given them
12 the detail, they know the issue. And I think we're on the
13 right path to getting good information.

14 COMMISSIONER SCOTT: Great. Any questions?

15 COMMISSIONER DOUGLAS: No.

16 COMMISSIONER SCOTT: Well, thank you very much
17 Paul for joining us today and for your also incredibly
18 informative presentation.

19 We are at, let's see, it's 12:10. So why don't
20 we regroup at 1:10. So everyone please come back right
21 after lunch at 1:10 and we will start at 1:10 sharp. See
22 you then.

23 (Off the record at 12:10 p.m.)

24 (On the record at 1:11 p.m.)

25 MS. RAITT: Well, we're all here. We can go

1 ahead and get started again.

2 So now we have a panel discussion and Gordon
3 Schremp is the moderator.

4 MR. SCHREMP: I am?

5 MS. RAITT: Oh, and I'll just add one correction
6 to the agenda. Rolando Caabay is not going to be joining
7 us today.

8 MR. SCHREMP: From the State Lands Commission,
9 yes, that's correct.

10 All right, well I think the purpose of the panel
11 discussion this afternoon is two-fold. One, it's to
12 provide the representatives of the various organizations an
13 opportunity to make some opening remarks when they
14 introduce themselves. You know, explain to us sort of what
15 your role is in the space for crude oil, ethanol, movement,
16 distribution.

17 So I think we had some slides in the first part
18 of the agenda this morning talking about the roles and
19 responsibility for your agencies, so I think people have
20 seen those. But if there is something else you'd like to
21 highlight your agency does or gets involved in or we should
22 be aware of, that would be I think a good opportunity.

23 And then I think we have some questions related
24 to the subject matter today for the respective agencies and
25 I'll sort of prompt some of that discussion. And Heather

1 is going to let us know if we have some -- I'm sure we have
2 questions from folks online, listening to the Webinar, any
3 folks here. And she'll prompt me for what the appropriate
4 sequence is and what those questions are.

5 So if we want to do some introductions,
6 Commissioner Scott, is that okay?

7 COMMISSIONER SCOTT: Sounds good.

8 MR. SCHREMP: All right. Well, I'll start to my
9 immediate right and we'll go to Ryan Todd.

10 MR. TODD: Sure. Thank you for having us on the
11 panel, us meaning the Department of Fish and Wildlife and
12 the Office of Spill Prevention and Response. I was one of
13 the speakers this morning, so I will be brief. But for
14 those that are listening online and missed the
15 presentation, our office is responsible for oil spill
16 preparedness and response in the state. Essentially that's
17 oil spill contingency plans, financial responsibility,
18 conducting drills and exercises, incident management and
19 damage assessment for injuries to wildlife and critters.
20 And I'll leave it at that.

21 MR. KING: Yeah, I'm Paul King, Deputy Director
22 for the Office of Rail Safety, Safety Enforcement Division,
23 California Public Utilities Commission.

24 The CPUC has the state responsibility for
25 railroad safety, which is prevention. We enforce the

1 Federal Railroad Administration's regulations as well as
2 state regulations. Our inspectors are FRA certified. And
3 we've been involved in the crude oil issues easily since
4 mid-2013 and at all levels of enforcement including
5 rulemaking and negotiations in Washington.

6 Just to add a little bit for those who may have
7 missed the earlier presentation, and just to add a little
8 bit to it, one of the concerns we've had about the rules is
9 getting the information emergency responders need to
10 prepare and to be prepared for any situation where there is
11 a spill. And I'm optimistic that we're on the right path
12 here. And obviously we're inventing a new wheel in some
13 regard, but that will get to the point where we can get a
14 meeting of the minds of what emergency responders actually
15 need and want and will be able to use. And what the
16 railroads can provide. I don't think we're quite there
17 yet, but a lot of effort on the part of the railroads to
18 develop computer programs and we'll be looking and
19 reviewing those, as of course, will the FRA which has the
20 lead on this.

21 MR. DUFFY: Hi, I'm Jim Duffy with the California
22 Air Resources Board. And thank you for inviting me to
23 participate on the panel.

24 For the past six years I have been a staff lead
25 on a number of projects with the Air Board, but most

1 recently the past four years I've been the staff lead with
2 the Crude Oil Provision under the Low Carbon Fuel Standard.
3 And under that provision I've developed the regulation
4 language, implemented that portion of the regulation, and
5 also worked with Adam Brandt at Stanford University to
6 develop the Oil Production Greenhouse Gas Emissions
7 Estimator, which is the model we use to estimate carbon
8 intensity values for crude oils.

9 And so I've been invited by Gordon to answer any
10 questions related to LCFS treatment of crude oil, what data
11 that we collect on crude oil as well as carbon intensity
12 values. And just how the regulation deals with crude oil.

13 MR. PENN: Good afternoon, I'm Paul Penn, I'm the
14 Emergency Management and Refinery Safety Program Manager in
15 the Office of the Secretary Cal EPA.

16 As most people fondly remember a big black cloud
17 over the Bay Area in August of 2012 when the Chevron
18 Refinery, lacking an effective damage mechanism review, had
19 significant impact. And from that the Governor established
20 a working group that generated a report that was finalized
21 in February of 2014.

22 In many cases a report is issued and nothing
23 happens, not in this case. It gave us recommendations that
24 we've been following, we hope, astutely and assiduously.
25 And focusing in on number one, safety and prevention;

1 number two, emergency preparedness response; number three,
2 enforcement coordination. Another component is outreach.

3 The safety and prevention focus has been on both
4 strengthening and aligning two similar, but very distinct
5 regulations. One is the Process Safety and Management
6 Standard that is a California version of a federal
7 regulation that is in the hands of the Department of
8 Industrial Relations Cal/OSHA. And an analogous one that
9 protects the community and the environment, which is the
10 Risk Management Prevention Program, a component of the
11 Clean Air Act Section 12(r) known in California as the
12 California Accidental Release Prevention Program.

13 And those draft pre-regulatory regulations were
14 issued on May 26th and 27th by the Department of Industrial
15 Relations and the Governor's Office of Emergency Services.
16 And they're taking parallel but slightly different paths
17 with a hope of adoption June of 2016.

18 The next component is the Emergency Preparedness
19 and Response of which we have separate proposed regulations
20 we hope to be out in a month or so, again the pre-
21 regulatory phase addressing a separate section for those
22 regulated facilities, which we call under the CalARP
23 Program, Program 4, which are defined as refineries. And
24 then basically the next step up, which would be local
25 regulations implemented by the CUPAs, the Certified Unified

1 Program Agencies; the local agencies that's enforce several
2 of the environmental laws. I think California has
3 basically driven things down.

4 The overarching organization is the Interagency
5 Refinery Task Force, which is composed of several of the
6 state agencies, some represented here, plus the CUPAs and
7 Air Districts and strong involvement with the U.S.
8 Environmental Protection Agency. They're running under
9 their own sort of, let's say mandate, and that is the
10 Executive Order 13650, which came out of the Chevron and
11 the West Texas Sodium Nitrate explosion.

12 So we also have a series of outreach where we
13 have what are referred to as safety forums, of which we've
14 held around 10 around the state in the past 15 months that
15 I've been back to the state.

16 And that's probably enough for now.

17 MR. GORHAM: Good afternoon. My name is Bob
18 Gorham. I'm a Division Chief with the Office of the State
19 Fire Marshall. My agency is responsible for the safe
20 operation of 4,500 miles of intrastate hazardous liquid
21 pipelines. We have approximately 50 pipeline operators
22 operating these crude oil, gasoline, jet fuel, diesel fuel
23 pipelines throughout the state. We have an inter-annual
24 certification agreement with the federal government, PHMSA,
25 to conduct the program. We inspect using the federal rules

1 on pipeline safety as well as additional California laws
2 pertaining to pipeline safety.

3 We do not regulate or we are not an agent for the
4 interstate pipelines. And I'll leave it at that.

5 MR. SCHREMP: Well, thank you panel members for
6 introductions, some of them lengthier than others -- Paul.

7 So I think why don't we work kind of backwards?
8 We'll start with something we've been talking a lot about
9 this morning, of pipelines, certainly.

10 I mentioned about 30 or 35 percent of crude oil
11 going to refineries can go through pipelines. And pretty
12 much even all of the crude oil being imported by marine
13 vessel does go through a network of pipelines that go to
14 storage tanks, connect to the refineries. So pipelines are
15 pretty much everywhere for crude oil and necessary for
16 their conveyance as well as the finished products produced
17 by the refineries.

18 So I think for Bob, what's been in the news
19 certainly is the Refugio Oil Spill down there in Santa
20 Barbara County. And could you sort of give us a status
21 update of where things stand on the cleanup operation? And
22 then maybe get it a little bit into, to the extent you can,
23 where things stand on the pipeline? You know, certainly
24 what parts are down and maybe how long it might before that
25 comes back to service?

1 MR. GORHAM: Yeah, as we -- I can't really
2 comment too much on the investigation. I mean, it's an
3 interstate pipeline, which is under the authority of the
4 federal government. I don't really have a lot more
5 information than what's been made available in the press as
6 far as I do. And the PHMSA has issued some corrected
7 action orders that the Plains All American must do before
8 they're allowed to resume operations. I don't know what
9 the status of that is at this point.

10 And I understand the beach, Refugio, opened up
11 over the weekend. And there's just some minor cleanup
12 left, but don't really have much more information.

13 COMMISSIONER SCOTT: Maybe a general question, an
14 overarching general question, about your agency's role
15 regarding pipeline leaks in general maybe?

16 MR. GORHAM: Okay. Well, basically once a
17 pipeline is permitted we get involved with the design and
18 construction; make sure that it's put into the proper
19 standards. And then we stay with the life of that pipeline
20 as far as the operation maintenance of it, the inspection
21 of it, testing. We monitor their field review and also
22 record review. We do various types of inspections on the
23 operator either it could be operator qualification, their
24 integrity management program, a drug and alcohol.

25 And then the emergency response portion, we make

1 sure that they have procedures and personnel available to
2 monitor their pipelines and respond appropriately. And
3 until the pipeline's abandoned it's under our jurisdiction.

4 COMMISSIONER SCOTT: Thank you.

5 MR. SCHREMP: So for pipeline projects, I mean
6 for example I think one of the slides I had this morning I
7 was talking and mentioning there's really no crude oil
8 pipelines coming into California. But there is one project
9 in and well you had mentioned the name of the project,
10 that's Kinder Morgan's Freedom Pipeline, a project they
11 proposed back in 2013 initially. It didn't get a lot of
12 customers potentially signed up for that, it went into the
13 background.

14 I think more recently it's come back and there
15 might be some renewed interest in that. I think Kinder
16 Morgan has changed the scope of the project to potentially
17 include BHP (phonetic) shipments of condensate in the same
18 crude oil pipeline.

19 So I guess my question for you is they're looking
20 at using some underutilized natural gas pipeline
21 infrastructure, El Paso Natural Gas coming all the way into
22 Southern California. So would your agency's role in sort
23 of reviewing a game plan if one was put forth, would that
24 be just from the California border on all of that
25 infrastructure or would the federal government have

1 oversight over that project?

2 MR. GORHAM: Well, without knowing a lot of the
3 details, traditionally if it's going to be begin out-of-
4 state, and it's an interstate commerce, then we wouldn't
5 have any role in that process. Now, if it was -- if they
6 brought the product into California, for instance, and
7 maybe put in some tankage or a start point or there's some
8 laterals off of that line, it's possible those could be
9 classified as intrastate. And then we would be involved
10 with a review of that pipeline.

11 MR. SCHREMP: Oh, okay. And clearly, the Plains
12 All American pipeline that was involved in the
13 (indiscernible) Refugio oil spill that's in California, but
14 you mentioned PHMSA has the lead on that. And is that
15 because the pipeline originates in federal offshore waters;
16 is that sort of how they got the lead on that?

17 MR. GORHAM: Well, they're looking at basically
18 interstate commerce is one of the reasons. When the
19 pipeline was originally constructed it was connected to a
20 Plains All American line that went to Texas. But the
21 company can do what they call a FERC filing, and according
22 to the PHMSA definitions that can put them in the
23 interstate classification.

24 MR. SCHREMP: So it's almost like a vestige of
25 how the pipeline tariffs are set up in the description of

1 their system. That's why the feds have a --

2 MR. GORHAM: Yeah, and it's not my system. And I
3 don't know if there's an opportunity for a review of that
4 classification or how that's done, but it's more at the
5 federal level, how they classified the interstates.

6 MR. SCHREMP: Okay, great. Thanks.

7 I have no more questions for this witness. No,
8 I'm just kidding, didn't mean to come across as grilling
9 you or anything.

10 So that might change for Paul. So Paul Penn,
11 with CalEPA, I mean you talked about a subject that we
12 really haven't covered at all here today, but there's
13 certainly a nexus with -- the reason crude-by-rail is
14 coming into California is an interest by the refineries to
15 access more economically-advantageous crude oil. And
16 certainly it's get into the refinery arena.

17 A couple of these projects are associated with
18 refineries directly, so your areas that you've been
19 involved in recently have a lot to do with refinery safety,
20 which can touch on these projects that go right into the
21 refineries themselves. So could you explain in a little
22 bit more detail sort of what's trying to be accomplished at
23 the California refineries vis-à-vis safety? Is it more
24 inspection in the facilities by state entities, is it some
25 change in reporting requirements or monitoring of refinery

1 operations? I mean, what are some of the real, big drivers
2 here in what you guys are trying to get at?

3 MR. PENN: First, well I think it's significant
4 to note that traditionally you have projects or events or
5 things are going on that are generated by an event that
6 have occurred previously. So talking about the reason that
7 OSPR came about or the reason the PUC is involved, and
8 sometimes within government we tend to focus on this. And
9 there has not been as good an integration of the pre-
10 refinery, the transportation, and extraction and then the
11 distribution issues. Our focus here is in the refinery
12 itself and we've really tried to reach out and not fully
13 integrate, but integrate as well as possible with the other
14 organizations, so we work closely with all the folks here.

15 I'd say right now the emphasis is on prevention.
16 We've figured that if our efforts are put into prevention
17 the chances of uncontrolled releases will be minimized.
18 And I would be more than happy to provide to the Commission
19 a detailed presentation on the different aspects of both
20 the process safety and management and the risk management
21 prevention at CalARP programs.

22 But here the focus again, is in for example,
23 damage mechanism review. Basically saying to avoid the
24 problems that occurred at Chevron where over time
25 sulfidation, which is basically high sulfur crude that was

1 under high temperature and pressures, basically ate away
2 the pipes. And if they had an effective damage mechanism
3 review that likely would not have occurred, because they
4 would have replaced that pipe and replaced it with a higher
5 chrome or higher silica content.

6 But then it also goes into topics such as
7 hierarchy of hazard controls, so that they identify what
8 are the outstanding hazards. And they're required to
9 address those. Now, where the ultimate hammer is and
10 who's the final arbiter of good taste is still somewhat
11 undefined at this point. But there is a heavy onus on the
12 refineries.

13 The model that is used in many cases is the
14 industrial safety order in Contra Costa County, which holds
15 four large refineries within the state. And that has been
16 in place for quite a while and so we have a track record of
17 things that do work fairly effectively. And there are
18 basically seven elements including such things as
19 comprehensive and incident investigation, but most of all
20 focusing on the prevention side than just going out.

21 Then there is the question of how does one
22 prepare for effectively, emergencies that go beyond both
23 inside the facility and focusing in on worker protection,
24 and then on outside the facility on environmental and
25 community protection. So that is an ongoing activity

1 although I'd say the safety and prevention is the primary
2 emphasis right now. The emergency preparedness response is
3 concurrent. And as I indicate earlier there's also an
4 enforcement coordination and then enforcement coordination
5 works with the different agencies that may have a piece
6 whether it's the air districts, the local CUPAs, the USEPA,
7 any one of a number of other agencies to work effectively
8 together so that there is a coordinated effort.

9 Does that answer most of your questions? What
10 did I leave out?

11 MR. SCHREMP: No, as normally, you're pretty
12 thorough, Paul. I appreciate you --

13 COMMISSIONER SCOTT: I was going to ask about the
14 -- that was very thorough -- about the outreach component,
15 because that was number four I think on your list from your
16 opening remarks. And what are some of the examples that
17 you have of the Refinery Safety Outreach Program that
18 you're doing?

19 MR. PENN: So as they were beginning this program
20 and again, the event occurred in August of 2012, and there
21 was a series of activities in 2013 and 2014 where they met
22 with the communities. But the formal refinery safety
23 forums, which were mandated, were intended to generate
24 dialogue between industry and the other refineries,
25 workers, community groups and regulators. So we've held

1 a series of ones, of which often our featured speaker is
2 sitting at this table, Mr. Gordon Schremp, because of the
3 interest in transportation of petroleum. We tried to avoid
4 focusing entirely on crude by rail, but knowing that that
5 was of great interest to the community although it was not
6 specifically to the refineries. And unfortunately we put
7 him in an unenviable position of sometimes if he would tell
8 us what was going on and they demanded answers of him, of
9 which was not in his universe. But he was skillful and the
10 Kevlar jackets that we gave him before served well.

11 But we did things on that. We talked about the
12 air monitoring systems around the refineries. There are
13 several that have fairly comprehensive either community
14 monitoring systems, some that are actually fence line
15 monitoring systems throughout the state. There are really
16 three refineries that have effective monitoring systems
17 that we can access right now. And I dare say that you will
18 see comprehensive monitoring within the communities, within
19 five years I would say all of them will have something of
20 significance. That's just a conjecture on my part.

21 But then we also talked about warning systems.
22 Contra Costa County has a very effective warning system
23 although they did have some glitches during the Chevron
24 event. And they had a flaring event in December 18th of
25 last year where they probably could have used a warning

1 system, because it had considerable concern to the
2 communities.

3 Most recently we've held community safety forums
4 down in Southern California in both Carson, Torrance and
5 then in Bakersfield where we actually went over in detail
6 the proposed process safety and management and CalARP
7 regulations. Plus there is a separate project by the
8 California Air Resources Board on emergency air monitoring
9 systems available on inventory right, part of a three-fold
10 project of an inventory, an assessment and recommendations.
11 So they completed the assessment and they've well into the
12 inventory and now they're into the assessment phase.

13 So we've had everything from 20 people to 100
14 people. We had simultaneous translation for non-English
15 speaking participants. And we've had some where we've had
16 large community involvement, some where we've had greater
17 industry involvement.

18 COMMISSIONER SCOTT: Sounds good.

19 MR. SCHREMP: So Paul, you mentioned the
20 Industrial Safety Ordinance that's been around for awhile
21 from Contra Costa County. Has there been any attempt to
22 replicate that into Southern California where ether has
23 even greater refining capacity than Northern California?

24 MR. PENN: The CalARP Program is basically a
25 reflection of the Industrial Safety Ordinance and then

1 takes it to the next step, so that will have statewide
2 application. If I were a refinery in Northern California I
3 would encourage the adoption of the statewide, because it
4 somewhat levels the playing field.

5 See, that was short.

6 MR. SCHREMP: And certainly I think unplanned
7 refinery outages, which was the case at Chevron Richmond
8 that you mentioned in your other set of comments, that's
9 certainly something that we've seen here in California can
10 have a significant impact on fuel pricing. We see
11 temporary supply tightness and a rapid escalation in
12 prices, something we've had, I think, in a significant
13 number of unplanned outages this year in California.

14 So has your agency looked at refinery unplanned
15 outage frequency, done any sort of an analysis like that or
16 looked at some primary root cause analysis of unplanned
17 outages to see if there's any sort of pattern or changing
18 trends? Have you done any of that sort of work?

19 MR. PENN: The short answer is no. But the thing
20 that jumps out at us right now was the February 18th
21 explosion of the ExxonMobil facility in the electrostatic
22 precipitator that caused a partial outage within that
23 facility. So we have not done the analysis and I'm happy
24 to say that there are unplanned outages, but the number of
25 events that have had either impact on worker safety or

1 community safety have been fairly limited in the past
2 number of years. So we're hoping that we'll even reduce
3 that greater. As we say that when you deal with hazardous
4 materials they are hazardous. And when you put people and
5 hazardous materials together eventually something is going
6 to go wrong. We're trying to minimize that and I think
7 we've seen significant progress.

8 And many of the aspects in the proposed
9 regulations, many of the refineries are doing already, but
10 not in a comprehensive and integrated fashion. I daresay
11 after these regs are generated we will have much more data,
12 because there are reporting requirements that we will be
13 able to get much more information out of. And the place
14 that you'll probably get some of the best information is
15 most likely out of Cal/OSHA, because they have an
16 established process safety and management program.

17 MR. SCHREMP: Thank you very much, Paul.

18 So we'll switch gears a little bit here. So Jim,
19 you mentioned -- I think everyone here knows the California
20 Air Resources Board has a Low Carbon Fuel Standard for
21 gasoline and diesel to reduce that carbon intensity over
22 time. And then you mentioned that another aspect of that
23 program is a crude element, to monitor and try to reduce
24 the carbon intensity of crude oil being used by California
25 refineries. So could you expand on that a little bit? I

1 think there's a couple of aspects of that. There's a data
2 collection activity that the Air Board undergoes trying to
3 identify those different types of crude oils. And there's
4 also a monitoring activity that looks at how potentially
5 the carbon intensity is changing over time. Could you
6 maybe give us a little detail on that?

7 MR. DUFFY: Sure. In December of 2011 the Air
8 Board approved what we call the California Average Crude
9 Oil Provision, which is what we're operating under today.
10 And this provision is designed to hold the line, so to
11 speak, against increased in crude oil carbon intensity.
12 And not individual crudes, but rather on a California-wide
13 average basis.

14 So under the California Average Provision we have
15 set a baseline carbon intensity for crude oil supplied to
16 California during the baseline year of the regulation,
17 which is 2010. So we took the individual crude carbon
18 intensities for all the crudes that came to California in
19 2010 and calculated a volume-weighted average of those
20 carbon intensity values. And that sets the 2010 baseline.
21 And then each year of the regulation we redo that.

22 And so the regulated parties for CARBOB and
23 diesel, which are the refineries in California, they report
24 to the Air Board on both a quarterly and an annual basis,
25 the names and volumes of all crudes that are supplied to

1 their refinery. And so each year we recalculate what we
2 call the Annual Crude Average Carbon Intensity. And then
3 we kind of aggregate that. We calculate a three-year
4 average and that was at the request of the industry kind of
5 to even out any big changes that may occur on a yearly
6 basis, they wanted a three-year average. And we compare
7 that three-year average to the 2010 baseline.

8 So if the three-year average is greater than the
9 2010 baseline then the refiners are assessed an incremental
10 deficit, an additional deficit on all CARBOB and diesel
11 that is sold in California. And that deficit is
12 proportional to the increase that we observe between the
13 annual value and the 2010 baselines.

14 So just as a summary, we have quarterly and
15 annual reporting of all crudes and volumes. And we
16 calculate these annual crude average carbon intensities
17 just to ensure that the overall California average isn't
18 increasing over time. If it is increasing then the
19 regulated parties are assessed a deficit. If it decreases
20 over time then really nothing happens. So it isn't really
21 designed to decrease the crude carbon intensity, but rather
22 to hold the line to prevent increases.

23 MR. SCHREMP: Okay. Thank you. So here we're
24 into 2015 now and I think recently your agency has released
25 the 2014 analysis, the results. So what has happened to

1 sort of that average basket of crude oil the refineries
2 have used? Is it sort of about the same, has it changed a
3 little bit, relative to the baseline?

4 MR. DUFFY: It is pretty close to the same,
5 slightly less. The 2010 baseline is 11.39 grams per
6 megajoule. For 2014, just the 2014 year itself, it was
7 11.19. The three-year rolling average, which combines
8 2012, 2013 and 2014 was 11.3. So over that period it has
9 been slightly less than the 2010 baseline, but pretty
10 close.

11 MR. SCHREMP: Okay, thanks. I know we talked a
12 little bit this morning about crude by rail and certainly
13 it begs the question of where might that crude originate
14 from? And clearly I think some of the projects in
15 California and those in Washington state have talked about
16 Bakken Crude is one natural source, especially if you go
17 further north into Washington in crude-by-rail receiving
18 facilities. And then certainly Canadian crudes, both in
19 some conventional, but for the most part either synthetic
20 crude oil or some heavier crude oil coming out of Canada.

21 So with regard to kind of like North Dakota,
22 heavy crudes, synthetic crudes, where do those kinds of
23 crude oil types stack up relative to the average? Are they
24 in general, higher or are they kind of similar to what's
25 coming into California now?

1 MR. DUFFY: Yeah, as I am often reminded the
2 crude oil carbon intensities kind of fall upon a continuum.
3 And we see that in the analysis that we do. If you look at
4 a lot of the crude that's coming out of the Bakken region
5 the carbon intensity value that we've calculated for that
6 crude is just a little bit less than the 2010 baseline
7 average. It's about somewhere, if I remember correctly, on
8 the order of about 10 to 11 grams per megajoule.

9 I will caution that statement however, in that
10 the OPGEE Model, the Oil Production Greenhouse Gas
11 Emissions Estimator model that we use does not have a
12 specific module related to fracking and some of the
13 additional emissions that may be present when you produce
14 out of tight oil formations.

15 So delivering frack water, frack sand, chemicals
16 to the site, any emissions associated with pressurizing the
17 flue to frack the formation, emissions associated with
18 flow-back if there's any venting fugitive emissions and
19 then disposal of fracking wastewater. That is not
20 explicitly modeled at this time. We do however have a
21 contract currently under way with Stanford to expand the
22 model to include a fracking module so to speak that will
23 capture those emissions. So when I say a CI value for
24 Bakken on the order of 10 to 11, in actuality it may be a
25 little bit higher once that modeling is completed. But I

1 can't see it increasing significantly above the average at
2 all.

3 With respect to heavy crudes that come out of
4 Alberta, there are a number of different production methods
5 up there. Some of which may have carbon intensities that
6 are below the average, some of which and many of which have
7 carbon intensities above the average. So there is cold
8 heavy production that occurs in Alberta crudes on the order
9 of 15 to 20 API gravity. Often times, at least as far as
10 our modeling, those have been coming in a little bit below
11 the 2010 baseline.

12 But similar to California there's also thermal
13 production: SEGD and Cyclic Steam Simulation and carbon
14 intensities for what we call diluted bitumen. Those are
15 generally transported as a mixture of about 75 percent
16 bitumen and then about 25 percent natural gas liquids.
17 Carbon intensities generally for those crudes range on the
18 order of maybe 15 to 25 grams per megajoule, very similar
19 to California heavy production.

20 And then there's the mining, the oil sands
21 mining, which is usually upgraded. And oil sands mining
22 with upgrading generally varies on the order of about 20 to
23 maybe 30 grams per megajoule depending upon whether the
24 upgrading is integrated with the mine or whether it's a
25 separate upgrader from the mine.

1 COMMISSIONER SCOTT: I have a question for you.
2 You mentioned, back kind of to the data that Air Resources
3 Board collects, you mentioned you got quarterly and annual
4 reporting of all crudes and the volumes. Is there other
5 information on crude that you collect?

6 MR. DUFFY: Under this provision, no. It's just
7 that information. We do have a separate provision, which
8 is called the Innovative Crude Production Method Provision.
9 And under that provision, oil producers that implement what
10 we call innovative methods, which range from like solar
11 steam to carbon capture and sequestration, solar and wind
12 electricity used on site, those type of innovative methods
13 that will reduce greenhouse gases -- they can receive
14 credit for the emission reduction associated with those
15 projects. To date we have not received an application for
16 any of those projects, but we're expecting some to be
17 coming in soon once we readopt the regulation.

18 And there will be separate reporting requirements
19 for those crude producers, but as far as the refineries are
20 concerned it's just the crude names and the volumes.

21 COMMISSIONER SCOTT: Thanks.

22 MR. SCHREMP: So I understand that in shale
23 plays, new areas of shale plays, by consequence of there
24 not being a lot of infrastructure there when they --
25 certainly when they bring wells online there is a lot of

1 flaring. And so it goes on and you can see that from some
2 of the satellite imagery at night. So flaring is certainly
3 greenhouse gas emissions and then some of the methane
4 leakage that can go on as well is not actually being
5 burned. So does OPGEE capture that kind of activity as
6 well or that's already being captured?

7 MR. DUFFY: Yes, it is. And the data for that
8 flaring comes in a number of different forms. For many of
9 the states within the United States we get that data from
10 the state governments where they'll track the flaring
11 rates. We also for internationally produced crude oil, the
12 NOAA, National Atmospheric and Oceanographic Organization
13 (sic) I guess, something like that, they do satellite
14 imagery of the entire world. And they detect flares using
15 satellite imagery and based upon calibration they can take
16 the light intensity from those flares and calculate a
17 flaring volume.

18 And so OPGEE for any crude production where we
19 don't have better site-specific data OPGEE uses the NOAA
20 flaring volumes that are captured via satellite.

21 MR. SCHREMP: Thanks, Jim. That was helpful.

22 Well, maybe I think we'll shift over to some of
23 our morning presenters. I know that they were very
24 thorough, I thought, in coverage of their topics, so I
25 thank them for that information. And I just want to sort

1 of open it up to them and we'll start with Paul King.

2 I know you talked about a lot of, I guess
3 interaction with the federal efforts, because there's
4 federal preemption, there's federal regulatory development
5 that holds sway over operations in California to a large
6 extent. But you have a seat at that table, because of the
7 knowledge and expertise and you've been able to get a lot
8 of input into that space. So other than what has been
9 promulgated recently by PHMSA, are there some other areas
10 that you think need attention specifically in California,
11 that you would like to see some additional efforts?

12 I know there's so much effort right now to tie up
13 these recent regulations, work through some of the advanced
14 train reporting that you mentioned this morning, that is
15 very critical to first responders. But are there some
16 other areas that haven't been getting a lot of air play,
17 but maybe something that your agency is tracking or has
18 concerns that you think need some attention and should get
19 some attention in the near term here?

20 MR. KING: Well, a couple of areas come to mind.
21 One is ever since the tragic Chatsworth Metrolink train
22 collision there's been an effort, and now legislation to
23 implement what's called positive train control, which could
24 have great safety value for any train. It was originally
25 targeted, because of the passenger train collision and I

1 think, those 25 fatalities. That is supposed to be
2 implemented nationwide by the end of this year.

3 The railroads have pointed out, and we're pretty
4 sure that this has been the case, we've been following it,
5 that there have been difficulties out of their control such
6 as obtaining the radio spectrum necessary for the
7 communication between the satellites, the back offices, the
8 wayside and the locomotive to implement this system that
9 will automatically stop a train before a collision.

10 The various parties have different views of how
11 far out the deadline should be extended. As far as 2023
12 was one request in Congress and that's in a bit of a state
13 of flux right now, but it needs to be fleshed out. It
14 needs to be resolved. And it needs to be applied to these
15 high-risk routes and we're watching that. It is an area
16 where the state is preempted. It's obviously a national
17 network crosses state lines and has to be interoperable
18 between not only railroads, but between political borders
19 as well.

20 For example, my understanding is the Klamath
21 route, which is the only Bakken route, the only route
22 that's been used for Bakken so far is actually called "dark
23 territory." There are no signals even there. Trains
24 operate by track warrants, which say you'll be in this
25 siding to let the other trains pass at a certain time.

1 It's not the best system. It is a low-traffic route, but
2 still that's one area that positive train control would be
3 well-utilized but, of course, in all the other high-volume
4 areas.

5 Another issue is the volatility of the Bakken
6 Crude. I don't think that's been entirely resolved. I
7 think Congressman Garamendi may still have a bill proposing
8 to have a national standard for volatility for shipment of
9 crude by rail. North Dakota has developed a standard. And
10 not being a chemist I can't comment on that, although I do
11 know quite a few people do and say that the standard is too
12 high. It should be lower as far as volatility, so that's
13 something that I would say needs to be resolved nationally
14 as well.

15 And, of course, in California we do have issues
16 where we're developing a program. One program is the
17 Bridge Safety Program where we're working very closely with
18 the Federal Railroad Administration. And I must admit too,
19 I give them credit, the railroads have been very
20 cooperative in helping us get up to speed, so we can
21 provide that kind of oversight that the public should have.

22 Offhand otherwise, you know, for me it's almost
23 the bread and butter of our work and that is just
24 preventing any derailment for any train for whatever
25 reason. And again, working for the highest risk, highest

1 likelihood and highest consequence accidents and working
2 down and looking for areas that aren't regulated. And what
3 we do there, of course, if we can work it out informally
4 with the railroad to get the same result if we worked
5 formally that's great, it saves everybody time, it happens
6 faster.

7 Otherwise the PUC does have two avenues to craft
8 a new regulation and one is on its own, if the subject
9 matter is not covered by the Federal Railroad
10 Administration. And if it is we can work through the
11 federal processes and you can petition or suggest an RSAC
12 task.

13 MR. SCHREMP: Yeah, as like a couple of following
14 questions too -- so thank you for that, Paul, that was very
15 helpful.

16 So it's my understanding on the volatility of
17 Bakken Crude, the associated natural gas for that, that the
18 regulations North Dakota has put into effect are such that
19 they bring down the volatility of that crude oil to that of
20 like say, gasoline. Isn't that the standard, that it can
21 be the same as gasoline being shipped? So the complaint is
22 that that's still too high, but I think that's sort of a
23 national hazardous materials classification or packaging
24 classification, no greater than gasoline, nothing in cases
25 it was higher.

1 So from what you're hearing is it that they want
2 to get that down even further to sort of a new
3 classification or Bakken that has in-trained natural gas.
4 Is that kind of where people might be headed?

5 MR. KING: Well, again I don't know. You may
6 know more about this than me, it sounds like you do. But
7 no, I don't know what criterion they had used and the
8 criticisms, I don't know. I've never validated them
9 myself, but one of the criticisms that I've seen out there
10 is that the volatility is about the same as it was in Lac-
11 Megantic, the standard. So again, on its face if that were
12 the case that would not be good. And I don't know what
13 criterion the proponents have for reducing it further.

14 MR. SCHREMP: Okay. And then what you were
15 talking about this morning, about working with the Class 1
16 railroads with regard to advanced notification. And I
17 think to paraphrase one of your comments about they
18 certainly know where their trains are and what's in their
19 trains from their operating system, sort of their control
20 centers if you will.

21 So I had a question regarding unit trains,
22 (indiscernible) saying unit trains whether that's say for
23 coal or grain or oil that's sort of a priority rail
24 movement. You know, once they get going they sort of don't
25 stop until they get to their destinations. And they have

1 to do some sort of scheduling ahead of time to see where
2 these trains are going throughout the United States and
3 even internationally into Canada to make sure all of that's
4 sort of coordinated. So do you know how far in advance
5 they look at unit train movements as opposed to say,
6 manifest cars? Is there some sort of rule of thumb, is it
7 like weeks in advance they sort of know or is it much more
8 near-term than that?

9 MR. KING: Well, just to clarify a couple of
10 things. My understanding is the highest-priority trains
11 are the ones based on value and timeliness and generally
12 those would be the double-stack container trains. They
13 contain very high-value things such as electronics, so they
14 would generally have a priority. As well Amtrak has a
15 priority, because they have a schedule agreement. I would
16 say as far as a priority over other trains, the bolt
17 (phonetic) trains aren't necessarily a high-priority
18 scheduling train. They very well could take a siding on a
19 single-track railroad.

20 The most important point for a unit train is that
21 it's not put into a terminal and switched. For example, a
22 train coming out of Chicago that goes through Omaha -- I
23 don't know the eastern routes very well, but just
24 hypothetically -- could go into the yard there in Omaha and
25 be switched. And some cars might not get out of there for

1 a few days depending on their priority. The unit trains go
2 from origin to destination without being switched and
3 that's why there's an economy there for any new equipment
4 like electronically-controlled brakes.

5 As far as scheduling goes the railroads are
6 certainly a lot better than when I worked on them in the
7 '70s about scheduling. But still there's so many variables
8 about schedule that I would say when the Federal Railroad
9 Administration sent a week's expectation out that was a
10 very reasonable timeline, because it is a matter of days
11 before a train gets here from the Midwest or North Dakota.
12 So I think that was a reasonable timeline as far as a
13 precise scheduling.

14 Still, that goes to the question of exactly what
15 do emergency responders' need? How are they going to
16 prepare and what kind of advance notice do they need to
17 have? I really need it for those two: the emergency
18 response planners and experts. We just will take what they
19 advise and advocate for it.

20 MR. SCHREMP: Thank you. And I guess kind of a
21 final question I have is you briefly touched on it this
22 morning -- I mean, you covered it in great deal, which was
23 excellent, what's been going on with PHMSA and the FRA.
24 But I think there was a brief mention of there's some
25 Canadian activity certainly in the arena of both safe

1 operation of trains as well as the rail tank car safety
2 standards.

3 So from what you can tell from what Canada has
4 proposed, and what has been proposed federally, are there
5 still some either gaps or there's some areas where there is
6 not alignment? Because clearly rail tank cars go into
7 Canada and rail tank cars come out of Canada in the North
8 American Rail Network. So are there still some
9 misalignments that is being worked out or is everything
10 sort of dovetailing now in the arena of safety for both
11 Canada and the United States?

12 MR. KING: Yeah, I've been watching that. And
13 it's been nice to see actually ever since the Lac-Megantic
14 accident, we've seen the NTSB, the U.S. NTSB work closely
15 with the Transportation Safety Board of Canada. In fact, I
16 think NTSB participated in that investigation in Canada and
17 they've come up with similar recommendations.

18 As far as the regulatory side, FRA and PHMSA,
19 part of the problem there is Canada has different processes
20 and procedures written into law for promulgating
21 regulations different from the U.S. So the timeline has
22 been off, it's been hard to coordinate, because one country
23 can't quite know what the other country is going to do yet.
24 But otherwise it seems like they're on the same page. And
25 there's been a little bit of delay here or there for one

1 side, but they're coming together.

2 They will be harmonized. The tank car standards
3 very clearly would be the first area of harmonization.
4 Electronically-controlled brakes, I believe Canada was
5 looking at doing that, but decided not to be the first one
6 to do it. The FRA has put out the regulation, I think
7 Canada is going to come along. This is something that's
8 all in progress and is watching, but my view of it, what
9 I've seen is that it will be harmonized. I mean, obviously
10 if it's good for safety in one country it's good for safety
11 in the other. And the necessity to have interoperability
12 of course will push that as well.

13 MR. SCHREMP: Well, that's good news. I was
14 looking for the word harmonization, so thanks Paul. That's
15 good to hear.

16 MR. KING: You've prompted me well.

17 MR. SCHREMP: It sounds like on all facets
18 there's a tremendous amount of progress being made to
19 achieve alignment. So that's, I think, really good news.
20 And I think I lied, there was one other question that came
21 to mind. It's my understanding based on ethanol movement,
22 that because I think interdicted significantly, there was
23 some snow, some weather issues, there was some upset with
24 ethanol railcar movements. And so as a consequence of all
25 of all that activity there's a requirement for a weekly

1 report on how my rail activity is going. And sort of what
2 I've seen is this STB I think has these. And so there's
3 like how much time delay off of normal and how many
4 diverting cars, so there's a variety of statistics that are
5 reported. So have you looked at any of that information
6 and found any of that to be potentially valuable with
7 regard to train activity in California or is it not
8 granular enough in its information density?

9 MR. KING: Well, we haven't watched the volume so
10 much as they vary from week to week, because like I
11 mentioned before most of our work is preventing derailments
12 no matter what train. And the ethanol I can't respond to
13 that, but the team I mentioned before, the crude recon
14 team, they're also looking at ethanol and the routing. And
15 they're on top of that.

16 Ethanol has been coming into the state for quite
17 a while. And there's an interesting observation where if
18 you look at the dates of the derailments and the trains
19 that have exploded, for ethanol they seem to have stopped
20 about the time the crude oil trains started. In 2012 was
21 that last Montana one. There's an exception, during this
22 last year there was one in Dubuque, Iowa that derailed and
23 three or four cars burned. And there was quite a large
24 fire.

25 But, you know, as far as the day-to-day

1 variability we have not been on top of that. Our folks are
2 mainly out there performing the inspections, like I've said
3 before the bread and butter, to keep them all on the track.

4 MR. SCHREMP: Yeah, and it's a good point you
5 mention about ethanol and the use in California. You're
6 absolutely right, the lion's share of the ethanol used in
7 our gasoline is imported from outside of the state. It is
8 in rail cars and I neglected to have a slide on that this
9 morning, I apologize. But we do track what comes in by
10 rail, all commodities and I know we're just talking about
11 crude oil. But by far and away, the largest volume of
12 material is ethanol, hands down. And so I think it was a
13 nexus of 1.4 billion gallons in 2014, so an awful lot of it
14 coming by rail.

15 And whatever gasoline does over time, and the
16 degree of instate production, will determine sort of what
17 comes in. And there could be some reduction of ethanol by
18 rail if companies start bringing in some additional ethanol
19 via water say from Brazil, because it has a lower carbon
20 intensity to help achieve compliance with that part of the
21 regulation. That might be something that sort of reduces
22 the ethanol rail movements into California, but I guess
23 certainly time will tell on that.

24 Well, I guess we're coming to Ryan here at OSPR.
25 I think probably I'll offer up the same sort of question to

1 you that I did to Paul King, because you brought a great
2 deal of very beneficial information to us this morning.
3 Are there either some other areas that OSPR thinks is
4 pretty important, that needs some additional examination or
5 things seem to be going pretty good as far as you're
6 concerned?

7 MR. TODD: Well, as you know we're now a
8 statewide program and so that's new for us. You know, the
9 other agencies here, you've been statewide your whole life
10 so to speak. So it'll be interesting for us to see how our
11 requirements for spill plans and drills evolve inland in
12 the inner part of the state, because there are facilities
13 there that are not going to be as familiar with these
14 requirements. And how are they ready to manage an
15 incident, because we expect the operator to show up and at
16 least initially start running a spill.

17 That works out pretty well in the marine side,
18 because it's been going on for 24 plus years. But that's
19 something we'll have to really track, because obviously
20 earlier management of a spill is critical to getting a
21 handle on it and figuring out what the best response
22 strategies would be and figuring out what equipment needs
23 to show up initially.

24 We're meeting with Rail in August, our regs might
25 be out in a few weeks, so we'll see if maybe that meeting

1 gets postponed for them. You know, they might want to look
2 at the regs before the meeting. They've seen a draft
3 already, but this'll be the final version. So hopefully
4 that meeting will be about how their response planning and
5 capabilities are going to evolve here in California. But
6 like I said, that meeting is still in the works, and we are
7 looking forward to that meeting.

8 And then PHMSA had the Advanced Notice of
9 Proposed Rulemaking about oil spill planning requirements
10 for rail. And that was about a year ago, so PHMSA has been
11 pretty quiet. PHMSA and the FRA have been pretty quiet
12 about our program as it applies to rail, so it'll be
13 interesting to see what PHMSA and the FRA come up for with
14 the Spill Planning. Again, that's a big unknown for us,
15 but we're looking forward to working with them. And if
16 they want to reach out to us we'll gladly provide input and
17 hopefully develop something that works for California and
18 for them nationally.

19 And that's about it. I mean, again for us it's
20 going statewide that's new. And that's a developing and
21 evolving situation.

22 MR. SCHREMP: Okay. Thanks for that. I actually
23 wanted to touch base with you just a little bit, if we
24 will, on something similar to Paul King about getting sort
25 of an advanced notification of trains whether that goes to

1 the SRP (phonetic) or the OES. Your agency has been
2 working a couple of decades in the arena of marine
3 movements, certainly. So you do receive some advanced
4 notification of marine movements ahead of time, could you
5 sort of explain how that works and what you're getting?

6 MR. TODD: So the Coast Guard requires notice of
7 arrivals for vessels and our staff receives those notices
8 from the marine exchanges in the state. And with that
9 information we decide which ships to go aboard. But for
10 rail movement it's my understanding -- I don't think our
11 staff receive those notices. As I recall the legislation
12 was pretty tight on how those notices were distributed.
13 And I don't think we can get those.

14 But our requirements are based on reasonable
15 worst-case spill. So even if we don't get the notice, our
16 planning standards are going to be such that if there's a
17 large incident we should know -- the idea is we would know
18 what to roll out and how quickly it can get there. As one
19 person said, if you know one large train has come through
20 you have a good idea of what you need to do to prepare for
21 it.

22 Thanks Paul Penn.

23 MR. SCHREMP: So kind of I guess a final question
24 to is -- and you may not have the answer and that's okay
25 and you could think about that, and maybe circle back with

1 us. Is there anything -- as I explained and as you're
2 aware, we do collect a lot of the information here at the
3 Energy Commission -- I just wondered if there is anything
4 that we could do to help work with your agency and even the
5 other agencies here at the table, that we could provide
6 some input into data collection that we do. Or summaries
7 of information, awareness, whatever that might be if there
8 might be something we can help out there we'd be happy to
9 do so.

10 MR. TODD: Sure, I appreciate the offer. Our
11 office is generally not a source of data generation like
12 you folks do. But as you know the Board of Equalization
13 collects the fee that funds our program, so that's as close
14 as we get as to sort of a data collection entity. But I
15 appreciate the offer.

16 MR. SCHREMP: Well, I guess at this point I
17 didn't have any other questions. Commissioner Scott, did
18 you want to open this up to others that might have
19 questions or how would you like to proceed?

20 COMMISSIONER SCOTT: Yes, that sounds good. I've
21 asked all my questions as well.

22 MR. SCHREMP: So Heather, how would you like to
23 proceed at this point?

24 MS. RAITT: Well, we can just move on to public
25 comment. I don't know if anyone in the room had questions

1 or comments? If not, I know there's one person on WebEx.
2 Syreeta Williams, I think your line is open Syreeta, if you
3 had a question? Sounds like is your mute on Syreeta? We
4 don't hear you if you're there.

5 Okay. Anyone else? So we can go ahead and open
6 up the phone lines then and see if anyone on --

7 MR. SCHREMP: Syreeta just messaged me, she
8 doesn't think we can hear her on her mic.

9 MS. RAITT: Okay. So we're having some WebEx
10 problems with getting Syreeta on here.

11 COMMISSIONER SCOTT: Could she maybe type her
12 question to you and you could read it from there or we
13 could try again to open up her line?

14 Maybe while we're waiting, did the panel members
15 have any questions for each other? Okay.

16 MR. KING: This is Paul. I just have a comment,
17 I just really appreciate this forum. And I really
18 appreciate the information that Gordon is able to pull
19 together. I've used it many times when folks ask me
20 questions about the issue. He's the go-to guy. His
21 PowerPoints are to be envied and I've used them any times
22 and I watch for them and tuck them away safely. So thanks,
23 Gordon and thanks to the Commission for providing this
24 venue.

25 COMMISSIONER SCOTT: Thank you all for being

1 here. And I will second your remarks about Gordon's
2 fantastic PowerPoint presentations.

3 Any luck with Syreeta's line?

4 MS. RAITT: No, but she's written something out
5 that we can try to get, it will take a few minutes though.

6 MR. PENN: While we're waiting I did drop off a
7 two-page fax sheet on our ongoing activities that I dropped
8 off up front. I have a copy for you if you'd like and
9 there is much more additional information on the
10 Interagency Refinery Task Force at the CalEPA/Refinery page
11 that will give you information on the proposed regulations,
12 a number of the presentations including one of Gordon's.
13 So again, that's a resource that is made available.

14 COMMISSIONER SCOTT: Thank you for that.

15 MS. RAITT: All right, I can go ahead and start
16 reading her questions. The first one -- actually the
17 second one in the order was what kind of crude is expected
18 to arrive in California via crude by rail?

19 MR. SCHREMP: So this is Gordon, crude by rail
20 receipts I think, the projects we've looked at, can
21 certainly fall into two categories. One is in some cases
22 to be able to receive crude oil that is obviously heavy,
23 because there's a steam operation at the receiving end. So
24 they'll want to warm that back up to extract the crude from
25 the rail tank cars and other non-heavy crudes coming into

1 California. So I think from a refiner perspective they
2 would certainly look at wanting to bring in what they refer
3 to as advantaged crudes. Meaning discounted crude oils
4 relative to what they can purchase on the open market here
5 on the West Coast at international prices, which the
6 foreign crudes relate to those prices, because they're all
7 in competition with one another.

8 So I think there's no specific detailed forecast.
9 And even if there was and I were to offer one it would be
10 wrong. I know that for a fact, because what's changing are
11 both the relative prices of the crude oils in these various
12 points of origin, the amount or lack of pipeline takeaway
13 capacity in these producing regions, which affects their
14 local value. As well as refinery projects throughout the
15 United States and in Canada that are modifications designed
16 to handle greater quantities of light crude oil now.

17 This is a change from seven or eight years ago,
18 when modifications at refineries were designing themselves
19 to handle heavier crude oils. Those were the crude oils
20 that were coming online incrementally speaking. And so
21 refineries had to tool up in the United States to handle
22 the heavier diet. Well, that's all now changed.

23 So I guess my point is that there's a lot of
24 moving factors here that will ultimately dictate what crude
25 oil comes in. And probably the most important factor is

1 going to be whether or not -- to what extent these projects
2 are obtaining approval ultimately. How many will
3 ultimately dictate where the crude -- how much crude oil
4 comes in and where it comes from will depend a lot on what
5 the refineries are trying to achieve.

6 And I guess another couple of points on that, I
7 should point out what do refineries -- sort of how do they
8 handle the crude oil they do receive? It's not like a
9 trainload of crude comes in, they put that in a storage
10 tank, and then will process it. Actually it's quite
11 different than that. Refineries will actually blend crude
12 oils they have in storage tanks and then process this
13 blend. And so why are they doing that? They're trying to
14 get their crude oil, that's in that blend, to be in a range
15 of proper use whether that's the density of the crude, the
16 sulfur content, the amount of total acid number.
17 Properties like that, that can have an impact on their
18 operation and certainly most importantly, how that crude
19 oil behaves when they cook it, when it's distilled.

20 So the distillation course of the crude oil
21 depends on what kinds of ratio products you get out at the
22 refinery level. So what are the targets? The volume of
23 fuels that are produced based on their refinery equipment.
24 They have a limit, there's a range, and they're flexible,
25 but it depends a lot on what's already in place at the

1 refinery and the quality of the crude oil they're feeding
2 into their system. So they can vary that quality by
3 changing the mix of the imports or purchase of crude oil to
4 a little bit heavier diet or a little bit lighter diet.

5 So that is something that keeps moving all the
6 time, so there's no definitive answer for you I'm sorry to
7 say. But I guess a final point in that is the refineries
8 in California are pretty sophisticated. I think Jim Duffy
9 from ARB knows of this in their examination refinery
10 capability and complexity. And so they can essentially
11 handle almost anything, real heavy crudes, real light
12 crudes, anything in between. So that's what the crude by
13 rail is. They're looking for what's the best price and
14 how's that going to fit into their system for the products
15 they want to make in every refinery capability that they
16 have.

17 MS. RAITT: Thank you, Gordon.

18 So her comment was in reference to your slide 11,
19 the statement that says, "Increased crude oil by rail is
20 likely to back out marine receipts of similar quality."
21 You may have already answered this one, but she had two
22 more questions.

23 The next question was, "Where will most of this
24 crude oil by rail be sourced from?" And then I'll go ahead
25 and ask the next one. It was, "What sorts of foreign

1 grades from what countries will the crude be backed out
2 from California?"

3 MR. SCHREMP: Well, I think that means -- I mean
4 I guess simplistically speaking, if you're looking a
5 project and you're targeting some light crude oil to bring
6 into your refinery. And you're already using a significant
7 amount of light crude oil from a specific destination -- so
8 this something you see up in Washington State where Alaska
9 oil is declining. And replacement was occurring from some
10 lighter oil coming in from the domestic lower 48.

11 So in that very simplistic example you'll replace
12 light crude oil imports by rail with light over the water,
13 for wash and shift refineries. The same will be in
14 California, if you can replace that, that's fine. But you
15 have to keep it in perspective of the relative volumes.
16 Crude by rail in California in 2014 was one percent of all
17 crude oil processed by refineries. So it's not like you're
18 replacing tanker-fulls of crude oil coming in from Saudi
19 Arabia. It's a significant volume differential.

20 Now, fast forward a couple of years and we have
21 some prudent and operating crude by rail projects and that
22 dynamic can change. But also keep in mind that, for
23 example, the Plains All American facility in Bakersfield,
24 that project puts crude oil into the headwaters of the
25 pipeline distribution system going north to the California

1 refineries and south to maximize potential customers. So
2 then once again, what portion of their total crude oil
3 imports is now coming from say rail? So if it's still
4 rather relatively small you won't replace a lot or all
5 coming from a specific country. But certainly the easiest
6 replacement is if a light crude oil comes in, you replace
7 and decrease foreign imports.

8 So when you look at the Crude by Rail Project in
9 Colusa County or Tesoro Savage Project, their target is
10 California. So whatever is coming into the facility is
11 going to be coming in to California and that kind of rail
12 marine movement will displace foreign marine imports.

13 And it will likely be something of similar
14 quality, but see we don't know what that will be. It will
15 likely be some mix of heavier and lighter crude oils, but
16 ultimately we don't know.

17 COMMISSIONER SCOTT: Did we have any other public
18 comment?

19 MS. RAITT: We may have one more, no? Do we?

20 Maybe we can open up the phone lines, so if
21 you're on the phone this will be an opportunity to comment.
22 If you don't have comments please mute your line. It looks
23 like we're done, we don't have any comments.

24 COMMISSIONER SCOTT: All right. I tried to write
25 a brief summary of what I heard during the day. And it was

1 a lot of really good information. It's great, I think, to
2 help give a finer point and really help us understand in
3 more detail the different agency roles.

4 And this is a space where there are a lot of
5 moving pieces, right? We've got the pipelines. We have
6 waterways, we have railroad tracks, refineries, tank cars,
7 terminals, storage tanks and each agency has a different
8 component of that. And so I'm glad to have everyone
9 convene -- not everyone -- but all of the state agencies
10 convened here at the table today to help talk about that.

11 All of these components also have a federal and a
12 state and a local, so it does get a little complex when
13 you're trying to figure out who does which part. So I
14 appreciate you all coming here to help provide additional
15 clarification.

16 I think some of the things that I heard during
17 the day where we listened from the OSPR presentation, we
18 heard about the Oil Spill Contingency Plans, the expansion
19 to become a statewide agency and include all surface
20 waters. We learned that working with UC Davis we have some
21 of the best wildlife recovery centers and plans in the
22 country.

23 And we learned a lot about certifying the
24 responders, the subcontractors and the contractors who
25 actually go out and help respond to the spills and making

1 sure that they're all certified and can actually carry out
2 the work that they said that they would be able to get done
3 for us.

4 From the Public Utilities Commission we got a
5 great update on what's going on federally including the new
6 braking provisions, provisions for stronger tanks, for
7 speed limits for trains depending on which areas they're --
8 driving's not the right word, I guess training, through?
9 We know that we need better information on a specific
10 product and its volatility that's in the rail car and that
11 that's something that we're still working on.

12 We understood some more about some of the
13 critical areas of concern along the tracks here in
14 California. I thought that was a very informative map that
15 you had at the beginning of your presentation, Paul.

16 We talked about how the Public Utilities
17 Commission folks are out there every day performing
18 inspections. And we saw some of the places that they're
19 looking at. For example, that I5, the bridge over I5 and
20 the train track below it.

21 And we talked and this was kind of a theme all
22 the way through, I think, of the day -- the type of
23 information, and how important it is that we get the right
24 type of data, so that the emergency responders and the
25 people who are working really hard in this space can most

1 effectively do their jobs. And in some cases we have a lot
2 of the information we needed, some cases it seems like
3 there's still some data gaps or some ways that the
4 information needs to be presented in a different way so
5 that we're able to use it.

6 We learned from Air Resources Board about the
7 carbon intensity of crude oils in California and how you
8 measure that and the type of data that you collect to be
9 able to do that.

10 We heard from CalEPA a focus on safety and
11 prevention, most especially prevention. And we talked a
12 little bit about damage mechanisms reviews or the hierarchy
13 of hazard controls and how important that could be. We
14 also learned about the Emergency Preparedness and Response,
15 the enforcement coordination and the outreach and the types
16 of workshops that CalEPA has been hosting all around the
17 state over the last 18 months or so.

18 Let's see, we heard from the State Fire Marshall
19 also about what they are working on in terms of pipelines.
20 And a lot of what they focus on is the design and
21 construction, the maintenance, inspection, testing
22 procedures and personnel to make sure that again we can
23 respond appropriately when needed.

24 We heard from Gordon's very thorough presentation
25 about the trends, the trends that we're seeing in this

1 space. You know, the prices, where crude oil is being
2 produced, where is it coming from, how is it getting to use
3 here in California. And I thought that that was
4 interesting as well. And then some themes that I heard
5 across all of the presentations were that a lot of this is
6 under federal jurisdiction, so we need to work closely with
7 our federal partners to make sure the different safety
8 things, the training, some of the information that we need
9 is provided.

10 We have most of the state agencies here, I think,
11 but we also learned how important it is for the local
12 jurisdictions, because a lot of times the things that we're
13 talking about and put in place go to the local
14 jurisdictions. And they are the ones who are on the ground
15 in making sure that things get taken care of.

16 We talked a little bit about best practices,
17 highlighted some in Contra Costa County and other places,
18 in thinking about how can we take those and put those in
19 place. And a theme, again that I heard, was really trying
20 to figure out how do we make sure that everyone has the
21 best data and information that they need, to be well
22 prepared and well trained to do the best job that they can,
23 in each one of these spaces that we talked about today.

24 So I really wanted to thank all of you for your
25 participation. You've been an excellent panel. We had

1 great presentations this morning. And I thought we had a
2 really thoughtful discussion this afternoon. And I'm going
3 to turn it to Heather just to kind of walk us through next
4 steps, so people know how to provide additional information
5 if they would like to comment.

6 MS. RAITT: Thank you, Commissioner.

7 I would just like to thank the various speakers
8 as well again. It was very informative today. Written
9 comments are welcome and due on August 3rd and the Notice
10 on our website provides the instructions for how to file
11 comments. We're using the e-Filing System now, so you can
12 go ahead and use that. And if you have any questions just
13 contact us and we can -- myself, Heather Raitt, or Raquel
14 Kravitz and we can get you some more detailed instructions
15 if needed.

16 COMMISSIONER SCOTT: Great and a special thanks
17 to Gordon for his terrific putting together of today and
18 his terrific moderation of the panel. And to the IEPR team
19 for, as always, making sure everything runs smoothly and
20 well.

21 So I think with that we're adjourned. Thanks
22 everybody.

23 (Whereupon, at 2:33 p.m., the workshop
24 was adjourned)

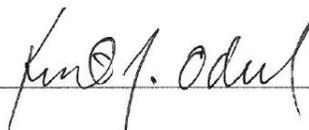
25 --oOo--

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