DOCKETED

Docket Number:	15-PMAC-01
Project Title:	Petroleum Market Advisory Committee
TN #:	207141
Document Title:	Transcript of 12/16/15 Petroleum Market Advisory Committee Meeting
Description:	N/A
Filer:	Cody Goldthrite
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	12/29/2015 11:29:22 AM
Docketed Date:	12/29/2015

COMMITTEE HEARING

BEFORE THE

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT

COMMISSION OF THE STATE OF CALIFORNIA

In the matter of,	)	
	)	Docket: 15-PMAC-01
Petroleum Market Advisory Committee Meeting	)	

CALIFORNIA ENERGY COMMISSION

CHARLES IMBRECHT HEARING ROOM

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

WEDNESDAY, DECEMBER 16, 2015

9:38 A.M.

Reported By:
Peter Petty

APPEARANCES

Commissioners

Janea Scott, Associate Member

CEC Staff Present

Ryan Eggers

Gordon Schremp

Ivin Rhyne

Petroleum Market Advisory Committee (PMAC) Members

Severin Borenstein, Chair, UC Berkeley

Kathleen Foote, Attorney General's Office

David Hackett, Stillwater Associates

Amy Myers Jaffe, UC Davis

James Sweeney, Stanford University

Invited Speakers

Tupper Hull, WSPA

Skip York, Wood Mackenzie

Lynn Westfall, Energy Information Administration (Via WebEx)

Jamie Court, Consumer Watchdog

Also Present

Public

William Lockyer, Brown Rudnick

Alexander Wong, California Energy Commission

INDEX

P R O C E E D I N G S

DECEMBER 16, 2015 9:38 A.M.

MR. EGGERS: I'm Ryan Eggers. Sorry we're starting a little bit late. We had some technical difficulties. Can everybody hear me okay?

So, I'm going to go through some housekeeping items before we begin. First, for those of you not familiar with this building, the closest restrooms are located directly out these doors and to the right. There's also some under the atrium hangover on the left-hand side, as well.

There's a snack bar on the second floor, under the white awning.

Last, in the event of an emergency and the building's evacuated, please follow all staff to the appropriate exits. We're going to reconvene over at Roosevelt Park, which is located directly diagonally across the street from the building. Please proceed calmly and, again, follow the employees to safely exit the building. Thank you.

Also, there's a couple of other things I wanted to go over before we begin. We have some new mics in this particular building. Your mic is not on unless it has a little red ring around the actual number. So, only four mics can also only be on at one time. So,

please make sure that before you start speaking that the mic is actually on before you start going. And please introduce yourself, as well.

The other thing to remember is, like I said, only four mics can be on at any one time. Either the last one is the last one out or the first one in is the first one out. And we can tell you that in a little more scrutiny today. So, please make sure that red ring is around before you start talking.

Now, I'm going to turn over the meeting to Chairman Borenstein. Thank you.

PMAC CHAIR BORENSTEIN: Thanks, Ryan. This is Severin Borenstein. Thank you all for coming. The plan this morning is we're going to have a couple of presentations by the CEC staff, updating us on various aspects of the gasoline market.

And then, we are going to have some outside presentations from representatives of WSPA, from Lynn Westfall, who is with Energy Information Administration, and on the phone, on WebEx. And from Jamie Court, from Consumer Watchdog.

That will take us to about -- each of those presentations is scheduled for about 20 minutes. The two CEC presentations are scheduled for about half an hour, together. And that should take us to about 11ish,

and we're hoping to have a panel discussion, with the three outside presenters and the Committee until about noon.

Lunch, a quick lunch and then back here by, I hope, 12:45 for some policy discussion among the Committee. This is the only time we actually get to talk to each other, so that's valuable time to actually discuss some of the policy alternatives.

Commissioner Scott is joining us today. Do you have anything you'd like to say before we get going?

COMMISSIONER SCOTT: Sure. Good morning. And welcome, Committee Members. I'm so pleased to have you all here again this morning. I wanted to say thank you so much for all of the work that you have done and continue to do.

As you all know, the gas price differential between California's prices, particularly in Southern California, and the national average has been high since February. And we asked you all to look into that. And so, I'm very much looking forward to the presentations that we'll have today and kind of continue the discussion about what is up there. And I also look forward to our panel discussions this afternoon.

And so I just want to say welcome and thank you, and I look forward to today's discussion.

MR. EGGERS: Thank you, Commissioner Scott. I'm looking around the room for Ysbrand and I'm not --

MR. EGGERS: Yeah, I'm going to fill in for him.

PMAC CHAIR BORENSTEIN: Okay. Okay, so Ryan, you're going to do the first presentation and then Gordon Schremp will do the second one.

MR. EGGERS: Yeah, so this presentation has to do with a recap of our workshop that happened back in -- or two months ago, back in August. August, I believe, correct?

PMAC CHAIR BORENSTEIN: No, October.

MR. EGGERS: October, right. Thank you. So, to start off, there were some decisions, actually takeaways from what the workshop went over. We went over a lot of things, on how fuels are moved here in California and where our particular supply chain is.

One of the things we found, you know, from the EI presentation and from the work is that California is very geologically isolated. We also have some very unique specifications, like CARBOB, which is high interstate specifications, and it's not easy to substitute into California with another fuel type.

We also have very much of a reliance on regional refinery production, which is in another slide and we'll get to that a little bit later.

And there's some infrastructure limitations on the ability of expanding and coming up with quick supply. When a disruption does occur, you know, response is usually to withdraw from inventory that's available. Sometimes, we're able to attract some foreign port shipments, but that does take a little bit of time. And foreign port shipments from foreign sources does happen, but it's very infrequent.

When the fuel supply is disrupted, alternative supplies have to come from far away locations, so at times they can be substituted and they're using Washington. Other times, we need to go across the Pacific in order to get these fuel types.

And the prices seem to increase more quickly than any of the other patterns.

Statewide reduction in consumption, there are (inaudible) refineries here, in California, that produce transportation fuels, with a rough capacity of about 1.85 million barrels per day. They produce roughly the balance here in California. They produced exactly how much we needed in 2014, as we consumed. These numbers were eerily similar.

That being said, Southern California does not produce enough gasoline to meet its demand. It often has to import from Northern California to bring down

(inaudible) -- consumption. Gasoline is pipelined out to Arizona and to Las Vegas, but they see supplies increasingly met from the Gulf Coast.

There's also import congestion restrictions for gasoline imports at a time, and no pipeline congestions seem to be occurring, when everything is working.

Now, we were hoping to have this graph at third quarter, but what has happened since February is there has been a very large increase of net gasoline and blend stocks imported into California, almost into record numbers.

Normally, the five-day average is these are very small and we've got a very unique type in, as far as net imports into that particular port.

But in 2015, there has been a large increase in gasoline imports into California.

PMAC CHAIR BORENSTEIN: Ryan, I have to stop you there. This is Severin. July, August and September are back to net zero, though?

MR. EGGERS: No. Unfortunately, we were trying to, last minute, update this particular graph.

PMAC CHAIR BORENSTEIN: Okay.

MR. EGGERS: With the reported numbers.

PMAC CHAIR BORENSTEIN: You don't have the data for that?

MR. EGGERS: Yeah, we haven't got the final numbers. We're basically missing some blend stock components right now in our information.

PMAC CHAIR BORENSTEIN: Okay.

MR. EGGERS: And so we're trying to get those and we were hoping to have them done by today.

PMAC CHAIR BORENSTEIN: And you characterize it that there's still strong imports?

MR. EGGERS: Exactly. The initial estimates from my expert in imports is, yes, it is still a very increased, elevated levels of imports.

And Gordon's giving the sign that he's got some more information on that, as well.

PMAC CHAIR BORENSTEIN: Great.

MR. EGGERS: So, that basically covers, you know, basically what we have going off of the workshop. If there's any other questions, I'll take them now.

Seeing none, is there any online?

Okay, so I'm going to turn the meeting over to Gordon Schremp.

MR. SCHREMP: That's a lot of core stat here. Good morning, everybody. Welcome PMAC Members, glad to have you here, and all other interested parties.

So, I'll give a little bit more detail on what Ryan covered from the previous meeting in October. We

do an update on pretty much all of the information we normally cover on prices, refinery operations, imports and exports. So, I'll get right to it. And please, interrupt me at any time with questions.

So, this is just a snapshot of where were prices yesterday. And as Commissioner Scott pointed out, yes, California retail prices for gasoline are still very high, very much higher than normal. They have been coming down, along with prices all throughout the United States, as crude oil prices continue to slide down.

And so, no surprise here, but it's now narrowing the difference from where we were even a year ago. So California prices right now are 22 cents a gallon higher than just a year ago. So, not a lot of change.

And the reason for the extended elevation of prices and the large differential is that California still has quite a few issued that I'll cover, in a little bit more detail, in just a few minutes.

But you see Washington prices are down and they're reporting the flow, than they were the same time last year. And we like to look at Washington and California, the West Coast markets are interrelated, and the West Coast markets -- Washington has refineries, like California, is primarily self-sufficient, as is California, normally.

This just shows you how much higher the prices have been from weekly data, comparing California versus the entire U.S. price for all gasolines. And it's been pointed out to us, by the Committee members, that California gasoline, compared to the United States, maybe isn't the best comparative. Maybe we should look at reformulated gasoline.

So, when we look at reformulated gasoline markets, that differential is still very significant. So, however you compare California gasoline prices to the rest of the United States, this will be a record year. And not just by a small amount, nearly double what previous differentials have been.

So, I think this is testament to how unusual the degree of refinery problems we've had in California, for 2015, most of 2015.

So, this covers both retail, the top line, the dotted line, on a daily basis this looks at prices for rack distribution in Los Angeles. This looks at wholesale prices on what we call the pipeline stock price. That's the yellow, with the dark blue dots.

And the bottom triangle is daily crude oil prices. And these are for business days.

And so, we see that crude oil prices have peaked in probably around May/June, continue to slide down and

are now lower than they were at the same time last year. So, right now you see in California the retail price still remains very much elevated and pretty far above where rack and spot prices are.

And if you notice, there have been some occasions where we've seen spikes in that spot price of gasoline, you'd normally associate it with some significant, unplanned outages. They're usually brief, but they do have an impact on all wholesale prices. They kick of the average distribution or rack prices and then they come down afterwards. So, it's almost like the damage done once the spot price kicks up significantly, because of the linkage distribution terminal, wholesale prices have to spot prices and contracts.

PMAC CHAIR BORENSTEIN: Gordon?

MR. SCHREMP: Yes.

PMAC CHAIR BORENSTEIN: Maybe you're getting this, but do you have the breakdown of retail, north/south, for branded/unbranded?

MR. SCHREMP: We have a breakout of rack prices, branded and unbranded, north and south, and I would be happy to go through --

PMAC CHAIR BORENSTEIN: But you don't have retail?

MR. SCHREMP: Yes, we can break that out. But I looked at branded and unbranded rack prices to see where we see where we see some inversions, and how far branded prices are above.

So, if you want me to, I can go to that --

PMAC CHAIR BORENSTEIN: No, no, no, you go at your pace. But I just was wondering if you -- why don't you do it and I can ask questions.

MR. SCHREMP: So, specifically, a retail price for Northern California and Southern California, to see how they diverge and they have diverged, Southern California diverging away from Northern California average retail price in the data. And so we can create a chart and provide that to the Committee. Might be able to do that during the lunch break. So, we'll do our best. But, yes, we can provide such a chart.

So, this is a chart that breaks out the various components of gasoline on sort of a snapshot basis, on those particular dates. And this is the one from Monday. And you see, like a sub-takeaway is the new yellow. That's the fuel center, the Cap obligation under AB 32, and so that's been fairly stable because the carbon market for fuels under the CAP is very stable. It's a quarterly option and so that price hasn't changed much, and it's about 10 cents a gallon.

So, that's sort of new.

And you see crude oil's the bottom one and that's, now, actually one of the lowest points we've seen in this snapshot history.

And we're seeing the required margin cost and profits is actually declined somewhat, but still rather elevated.

And then, looking at the green bar, you see distribution in cost and profits all together, and that actually has been relatively stable in these snapshots. Nothing quite extreme, such that we saw back in March, when we had a significant increase in prices following the initial ExxonMobil explosion.

PMAC CHAIR BORENSTEIN: Can you just tell -- one data question, the distribution dealer cost and profit is a retail price minus rack.

MR. SCHREMP: It's retail price minus taxes and rack, yes.

PMAC CHAIR BORENSTEIN: Okay.

MR. SCHREMP: That's correct.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER SWEENEY: Now, is this for the average of all gasoline or has the data been collected in a way that is mostly branded or unbranded, or is it just the average of everything?

MR. SCHREMP: The retail prices are -- it would be difficult to tease out what is exactly a branded and unbranded. Branded, well, I'll just --

PMAC MEMBER SWEENEY: Well, it's just meant to be the average of everything.

MR. SCHREMP: It's the average of all prices collected in California. They are a variety of branded and unbranded locations. Branded and unbranded is almost like a contractual designation to some. To others, a visual, is at a Chevron station, as a Rotten Robbie.

PMAC MEMBER SWEENEY: Right. I just wanted to get into detail just to make sure that this was the average, not that your data source was giving you one class or the other. Good answer.

MR. SCHREMP: It's a mixed class.

PMAC MEMBER SWEENEY: Yeah.

MR. SCHREMP: Now, on the wholesale price, the rack price, that is the branding rack price.

PMAC MEMBER SWEENEY: Okay.

MR. SCHREMP: So, there's a bit of mixture going on there. It's not easy for us to precisely tease out which of the retail stations we're seeing are branded. We can do that for the lion's share of them, but then there are some others that may be questionable what is

actually the brand of that particular location.

And this is from the OPIS retail day that's daily, and it's by card swipes at individual locations that give you the address and actual name of the business. So from that name, you can pretty much tell what the brands are.

Yes?

PMAC MEMBER HACKETT: Gordon, this is Dave Hackett. Is there any volume information in your averaging? Are these volume weighted at all?

MR. SCHREMP: No. The data is just a price swipe at that location. We do collect, on annual basis, information from individual retail service stations, which would be both branded and unbranded. And so, it is possible to meet that once-a-year location volume data with the daily data that we're picking up from OPIS, because we have those same addresses. So, I think it is possible, Mr. Hackett, to do a volume-weighted average based on the previous years' submittal of that price information because there are some hyper marks, for example, that are in this data collection that are lower priced, and the volumes can be 10, 12, 15 times greater than a typical service station. So, there can be some significant differences there.

PMAC MEMBER HACKETT: Thank you.

MR. SCHREMP: So, now, I'll talk about some refinery operations. And this chart, by IRR, on the bottom, the far right-hand gold bar is 2015. And this is the estimate amount of gasoline production capability offline for that month, on average.

So, the magenta or pink bar, just to the left, that's last year.

And so, when we look at the difference between the two, visually you can see, well, gosh, 2015 much more gas in production capacity offline. Clearly, with ExxonMobil's gasoline processing equipment down, that's a large part of this. But there's been some much greater level of gasoline maintenance, both planned and unplanned, this year compared to last year.

So, that difference between April and November, almost 150,000 barrels a day of gasoline production. Not crude oil processing, gasoline. So, if you think of California's gasoline output, 950, 980 million barrels a day, that's rather significant, the amount of gasoline production capability offline.

So, now let's take a look at things are improving. We hope so, by the end of the year. We're seeing that sort of very unusual, high amount of gasoline processing. The red line on this chart, is now you see declining steeply. That's the completion of

planned maintenance and some of it unplanned maintenance. There's a number of unplanned outages affecting gasoline processing equipment in California, primarily Southern California, Tesoro, Carson, Chevron El Segundo. Northern California, more recently affecting Tesoro. And most recently, up in the Pacific Northwest, Tesoro. And of course, the facility has lost their ability to produce gasoline, temporarily. It appears to be a number of weeks. In essence, as a consequence of a power outage up there, from the wind storms that kicked up and took that refinery down, all the units. And that definitely they had some issues associated with that emergency shutdown.

So, that's an example where you can see an unplanned outage that can extend in time, based on something out of control like, you know, extreme weather event.

So, it's getting better. Once this maintenance is completed and once ExxonMobil's facility is able to produce gasoline again, which is now estimated to be the middle of February, of next year, the gasoline production outlook will be much improved.

So, this is looking at all the gasoline production in California. And you see, more recently, it's been in the middle. The seasonal final advance, so

that's good news. And that's why we're starting to see a bit of an easing of prices. But when we look at this in terms of --

PMAC CHAIR BORENSTEIN: Gordon, can I -- just remind me, I asked you this at the last meeting, looking at this graph, and looking at the middle of February when the Torrance refinery went out, you would not see that production. And it seems like you should in thousands of barrels per week. We suddenly lost a million barrels per week. Why don't we see that in the graph?

MR. SCHREMP: Let's go to Southern California, rather than just looking at all of California.

PMAC CHAIR BORENSTEIN: Why don't we see it in that graph?

MR. SCHREMP: So you see -- so, that was the week ending the 22nd is when you're -- that would include the outage which happened on February 18th. So what happens is this is output from the refinery. And how they create gasoline, they create it from blending six, seven, eight different types of gasoline blend stocks, together. The gasoline blenders do this. It's after the main refining process in steps.

So, they had gasoline blending components in storage tanks, that they've already processed through

crude oil. They've also obtained gasoline blending components by imports and purchases from others.

So what they're doing is taking down their inventories and they create gasoline by blending these blend stocks. Not necessarily create by themselves, because they may have had an unplanned outage, like ExxonMobil, or they purchase from somebody else. So, you can sort of maintain output of gasoline production that you can't see after a significant refinery event like that.

But as time goes by, you see that ability has dropped back down. This is when you'll be depleting your inventory and now you're waiting for those imports to come in from outside of the State, which takes anywhere from two, to three, to four weeks to start to arrive.

But still, chronically low, now, through most of the rest of the year is this gasoline production of -- a decreasing gasoline production number in Southern California.

PMAC CHAIR BORENSTEIN: So, just so I understand, what we should take away from this is that we saw the outage in mid-February, but they managed to maintain production at pretty much the same level all the way through until early May, and that's where --

that drop is what we should associate with running out of the inventory?

MR. SCHREMP: Right, and before -- before sort of the armada of ships start to arrive, so to speak. And I'll show that.

PMAC CHAIR BORENSTEIN: Okay.

MR. SCHREMP: And so, what happens to the other refiners in Northern California, they endeavor to produce yet more gasoline, process yet more crude oil, and certainly the prices were very attractive, the margins much more attractive. So, highly motivated, as such.

And looking at it from after the middle of February, in 2014, between, say, February 15th and the first week in December, utilization rates in Northern California refineries were 88 percent. That meant they processed on average, for that entire period, about 88 percent of their crude oil processing capability.

And then, in 2015, in that whole period time after the ExxonMobil period, through the first week of December, of this year, that utilization rate is 91.7 percent.

And then, there was some, actually, crude maintenance, crude maintenance going on in the early part of that number that's calculated, so it's a little

bit higher later on in the period. And you can see it from this.

And that's something we're working on, creating a chart to see that. So, that is the refiner's responding to much higher prices, much higher margins, and trying to produce gasoline by processing additional crude oil.

So, here are the inventory levels. And you see in here, statewide, a drop off from, you know, the early February in 2015, and staying relatively low when we get in the summer period, and then slowly rising from imports.

And in Southern California you see a market decline after the ExxonMobil, of the inventories, as Southern California collectively pulled down those inventories to still create as much gasoline to meet their contractual obligations, and then imports start to arrive. That's where the inventory levels, you know, rebound back up to the middle, which you see late into April.

PMAC CHAIR BORENSTEIN: Can I?

MR. SCHREMP: Yes.

PMAC CHAIR BORENSTEIN: So, this is Severin Borenstein, again. I'm trying to -- so, the Torrance Refinery capacity was producing about 150,000 barrels a

day of gas to CARB?

MR. SCHREMP: I don't think that much. They said, you know, 10 percent of the State's supply, so let's say about a hundred thousand and some change.

PMAC CHAIR BORENSTEIN: Okay. But then if you lost all of that, it seems that the inventory change we're talking about here is eight or nine days of supply. Not enough to -- so, it seems like that would -- because we went from 6,200 to 52. I mean, it's basically a million barrels. So, and it bottoms out in July.

So, it seems like something else must have been going on that if we were replacing, with inventory, I mean do these numbers add up? It seems like we're -- there's something else going on here. If we're replacing with inventory, you would lose all of this inventory in ten days.

PMAC MEMBER MYERS JAFFE: Right.

PMAC CHAIR BORENSTEIN: And so, we saw an increased production in Northern California, but that's not nearly enough, was it?

MR. SCHREMP: Yeah, so I think what you're describing, Severin, is let's have a production number, let's have an inventory drop number, let's have an import number of CARB gasoline, recognizing we get

imports of components, that ultimately go back and end up being part of the inventory and being part of the production at some point. And let's sort of create that, build that supply --

PMAC CHAIR BORENSTEIN: Right.

MR. SCHREMP: -- and show where are they pulling from? Are they pulling -- are they pulling harder from inventory or are they depending more on imports compared to earlier periods when we didn't have that significant refinery upset. So, that's something that --

PMAC MEMBER MYERS JAFFE: Gordon, you're talking about a really long period of time for this. You're talking about a really long period of time here, on this table, for that process to take place, right. So, I mean, the other question is Torrance happens, right, and you need to replace 100,000 barrels a day of supply.

So, why are you only drawing down your inventory in April?

MR. SCHREMP: Well, this is sort of regionally, for all of the Southern California refineries, this is not just ExxonMobil. So, you're looking at -- so, what's happening is ExxonMobil is pulling from their own inventory.

PMAC MEMBER MYERS JAFFE: Right.

MR. SCHREMP: They are purchasing from others or

having others send shipments --

PMAC MEMBER MYERS JAFFE: Well, they put it on a swap or a --

MR. SCHREMP: Right, on their pipeline tenders.

PMAC MEMBER MYERS JAFFE: Right.

MR. SCHREMP: And they start some imports. Well, what's going on that whole period of time is there is not certainty as to their particular circumstances of being able to -- when will -- what's the damage to the gasoline processing equipment? What's the damage, the extent of the damage to the electrostatic reciprocator?

And once they know that, then it's like, okay, what course of action can I take to remediate the problem?

PMAC MEMBER MYERS JAFFE: And when did they announce with certainty? I mean, how many months did it take? We're talking days, months? I mean, when did they realize that they weren't bringing the unit up in three days and how did the market determine that, and how long did it take the market to understand that and respond?

MR. SCHREMP: There were multiple occasions when ExxonMobil publicly stated that they thought they would bring it back in the summer, and then it was fall, early fall, then it was winter. And so, there were multiple

times that there were other -- in trade press, of people that follow these markets very closely, have contacts in the markets, speculating on when they would restart.

And the speculation shifted from repairing the existing electrostatic reciprocator, shifting over to the older unit and structure, to actually structure and rerouting operations to that other. So, that was what surfaced as that's our alternative plan. So, that was rather early in --

PMAC MEMBER MYERS JAFFE: But hear me out, hear me out. So, between February and summer, when the fire first happened, the market believed -- knew, because of Exxon's announcements between February and July, that this unit was not coming back on. So, it had four months, five months to be prepared for the summer gasoline season.

So, Exxon had five months to get prepared, and the trading community and other refiners had five months to get prepared ahead of the summer gasoline season. Is that correct, from what you're saying? Because they knew that Exxon's facility would be out at least for the summer.

MR. SCHREMP: Well, I think initially, very shortly after the explosion, the announcement was that the damage was extensive to the existing pollution

control equipment and that it would take until the end of 2014 to repair that damaged pollution equipment. So, that was very early on.

Closely after that announcement, within a week to two weeks, ExxonMobil was talking about an alternative approach of using the backup equipment.

And so, there was speculation by many on how long that would take to reroute. And what was going on that whole time is you had an investigation by CAL OSHA, the Division of Industrial Relations, looking at the damage, not allowing engineers into the impacted area. They wanted to maintain evidence collection to try to do an analysis of root cause failure of the ESP. And so, they were really prevented from getting into the area, let alone doing work.

And so, there was a lot of -- so, they had a game plan, most importantly could you effect your game plan, would you be allowed to do that?

PMAC MEMBER MYERS JAFFE: Okay, so but hear me out. That just means the period's longer. So in other words, if I know what my game plan is and I know it's going to take me at least four months to implement, or five months to implement, and then OSHA's not going to let me implement it for several weeks, the material feature here is people knew it would be at least the

summer, and possibly longer, depending on how long it took Exxon to get back to its premises, right.

So, there's no way that the market thought, oh, geez, there's too much risk here to respond because maybe Exxon's going to announce they're bringing the thing on in March, right. Where knowing that the unit is out until the summer, if possibly longer. Is that correct?

MR. SCHREMP: That's correct. But you had the different types of market participants that have different outlooks on the risks. So, ExxonMobil has market obligations, they know what those are. And they will meet them through inventory draw down, purchase from others, and imports. And the imports would be regardless of what the arbitrage, even if they're open or closed, they're going to meet their obligations. So, that's their behavior.

And so, they're working along with their engineers, who are telling them what they can do. When they can exactly do it is questionable.

So, their planning horizon is, okay --

PMAC MEMBER MYERS JAFFE: But that means there should have been no supply disruption because they should have been able to meet their obligations initially, at a very fast rate from inventory, and then

they should have been able to secure imports, loans, and swaps from other locations. And they could have, in the planning horizon, knowing that four months in advance to May, or three months in advance to May that they're going to have a problem. That whole problem could have been smoothed over if it had been handled in a proper way.

MR. SCHREMP: Well, I don't know about how it was handled, I just know that --

PMAC MEMBER MYERS JAFFE: Well, that's my opinion is that, you know, you're talking about a long period where you have time, February's a low demand period for gasoline, right, you're going to have to -- you know when the switch over is going to come to RBOB. They had a lot of time to plan. They had a lot of time to plan and other players had a lot of time to plan.

MR. SCHREMP: Well, see, I think that's the whole crux of it. ExxonMobil has the supply obligation, just like any company, and it's sort of like, well, that's your problem, you're going to have to figure out how to do that. They're calling other refiners and the refiners are making decisions on whether to sell them inventory or --

PMAC MEMBER MYERS JAFFE: Okay, so two things that possibly happened. Thing number one is everybody

sees Exxon's in distress and so, to manipulate the market, nobody helps Exxon out.

Or, thing number two, you know, everybody just decides there's a lot of profit in this, to have a refinery of that scale down for five months, so they don't take as fast of steps as they could.

Or, thing number three, which is everybody meets their responsibilities, which is to supply the market, and they all take action to prevent there being a hole in supply. Those are the three basic options.

MR. SCHREMP: And I think that's -- I mean, collectively, that's what did occur, the hole in supply. Meaning, was there adequate supply to meet demand at the various price levels? And since we saw no shortages, then --

PMAC MEMBER MYERS JAFFE: What does that mean?

PMAC CHAIR BORENSTEIN: Well, no, come on, we saw a price spike.

PMAC MEMBER MYERS JAFFE: Yeah.

PMAC CHAIR BORENSTEIN: And so, at some price there's adequate supply and it was a much higher price than we're comfortable with. So, I don't think we want to get into talking about shortages, we want to talk about the fact that we saw an extreme price.

PMAC MEMBER MYERS JAFFE: Right.

PMAC CHAIR BORENSTEIN: But I want to let Gordon finish because we have other people.

PMAC MEMBER MYERS JAFFE: Okay.

PMAC CHAIR BORENSTEIN: So, why don't you move along.

MR. SCHREMP: Okay. So, this is the Northern California inventories and you see relatively unchanged. It didn't really have a significant number of unplanned outages there, so they've been seasonably sort of in the middle of the band, no real big change there.

So the imports, this is a response to -- by not only ExxonMobil, who knows more about, clearly, what their own individual problems are, but the other market participants seeing an opportunity.

And so, you had February 27th on the far left, and then you have a lag of multiple weeks before the cargos them begin to arrive to the West Coast from foreign sources. And it's significant.

The green line is a previous year for that -- each individual, and the blue line -- the blue bars are 2015. So, we do see a very significant import response of gasoline, both gasoline blending components and CARBOB coming in.

And then we see that drop off, and sort of it's dropping off when people thought, oh, yeah, ExxonMobil's

going to be coming back so I'm not going to send a cargo that's now going to take three weeks to come from the United Kingdom. And then, it didn't happen.

That's where we saw sort of another price spike occur in California, in wholesale, propagated through to the retail. And then, more import following again, and then they dropped off again.

And then most recently, up until a couple of weeks ago, the last of a couple of cargos that at least OPIS was talking about, they knew of that contained gasoline, have finally discharged.

So, we did see a very strong import response. And if you compare all of that period of time, 62,000 barrels a day versus 18,000 barrels a day at the identical period in 2014.

So, to us, that's a pretty strong import response, the highest since 2007.

PMAC CHAIR BORENSTEIN: It is, but it's 40,000 barrels a day, and Exxon had taken out more than 100,000 barrels a day. So, somewhere, we have to meet that shortage.

PMAC MEMBER HACKETT: So, Gordon, can you -- I know you get individual refiner data, and I was wondering if you can say either how much the ExxonMobil Torrance Refinery continued to produce after the FCC

went down, or can you say that they did continue to produce gasoline through this period so that the total loss was not 100 a day, or whatever their previous production was?

MR. SCHREMP: Yes, it's not as -- thank you, Mr. Hackett. It's not as cut and dry as that. You're right, the ExxonMobil facility could not operate their gasoline processing equipment because they had a crack in their unit, their obligation unit, their primary gasoline for to produce gasoline.

They were still processing crude oil for most of that time. In that initial step, you do produce some gasoline material, naphtha can be lead in gasoline. They were drawing from gasoline inventory of their own, as well as imports and purchases from others.

So, it's that combination that sort of gets them back to their contractual obligation levels. So, you're right, it's not the actual 100, full 100 that they lost. It's a smaller, it's a -- it's a majority of that.

PMAC MEMBER MYERS JAFFE: Because I just want to point out that in this window, where Exxon did not tell the market or suddenly sprung on the market the news that it wasn't bringing the unit back up, because that is the window at our last meeting, where you told us that people brought cargos of material into the market,

and then sailed them away after four days.

So, that corresponds to this drop in import levels, which happened in July, right? So, we find out some time here in July that Exxon's unit's not coming back up. We have cargo sail away from our coast and then only in August do we then start to get an import flow, again, to correct the problem that the market now realizes that Exxon still has a problem.

MR. SCHREMP: Well, that --

PMAC CHAIR BORENSTEIN: Gordon, I would say my recollection of the summer of '15 was that Exxon was reported to be working closely with the South Coast Air Management District in order to get their alternate plan, using their old electrostatic reciprocator up and running.

And so the impression that I have, not being a participant, was that process dragged on. People thought that they would get it up and they weren't able to get the permits. And, eventually, they threw in the towel and said, we're going to wait until we rebuild the one that we want.

MR. SCHREMP: Yeah, so I think what may be more helpful is to -- is to provide, for a period of time, points where there were some of these public announcements.

And as Mr. Hackett pointed out, the South Coast Air Quality Management District announced we're going to have a hearing, and it was announced a cancellation, a reschedule, and then a hearing cancelled. And so then, ultimately, ExxonMobil saying we're not going to pursue the alternative.

So, there are periods of time, and also what's very important for decisions to either send a cargo from a long way away, the risk that was pointed out earlier --

PMAC MEMBER MYERS JAFFE: I thought it was here and that it was sent away.

MR. SCHREMP: Well, it --

PMAC CHAIR BORENSTEIN: I'm going to step in here, as Chair, and try and keep us on schedule. Why don't we hold questions and I'm going to give Gordon five minutes to finish.

MR. SCHREMP: Okay.

PMAC CHAIR BORENSTEIN: And if there are pressing questions at that point, but we have outside speakers that we really need to get to.

MR. SCHREMP: Okay, so just one comment on cargos.

PMAC CHAIR BORENSTEIN: Five minutes.

MR. SCHREMP: I understand. Is of all the

gasoline port cargos, foreign service we were tracking, and many, many, many of them, only one vessel stopped in Southern California, at anchor, and then departed and went down to Mexico. So, there was only a single --

PMAC MEMBER MYERS JAFFE: Two, the one from Florida.

MR. SCHREMP: Pardon me?

PMAC MEMBER MYERS JAFFE: Last time you said it was the second one from Florida.

MR. SCHREMP: I'd have to go back and look at that. We have -- so, there was only cargo that left.

PMAC MEMBER MYERS JAFFE: Two.

PMAC CHAIR BORENSTEIN: Okay, we're going to resolve that as a point of fact, at some point.

MR. SCHREMP: So, gas and exports, something else that has been raised as gasoline exports continued during, you know, this period of time, these would have been foreign sources. As we see that the exports in 2015 are somewhat lower than they were in 2015, and so it's -- I'm sorry, in 2014. So, 22,000 barrels a day versus 27,000 barrels day.

So, we don't see a very -- a large sort of change in the export level, it's sort of status quo. Destinations are West Coast, Central America, it's Guatemala, it's El Salvador, and it's Mexico.

I know people have also talked about there has been additives in Mexico. Mexican refineries have had some significant outages throughout this period of time. And they do have increased imports, according to OPIS, that are coming primarily out of the U.S. Gulf Coast.

Pacific Northwest, we don't see much of a change between -- 2015's a bit lower, yes, than 2014. California, a lot of the destination of these gasoline cargos is Canada, closer proximity.

So, this is boiler plate language to how fuels under the CAP valuation is calculated by OPIS. You can read that at your leisure.

This is looking at the price differences to see did the average retail price of California gasoline versus neighboring states changed? And, yes, it has changed. You see the spiky behavior here. But it settled at a higher level.

And up in the upper, left-hand corner you'll see what that difference and that change has been since the first of the year. So, in most of the cases it's sort of the 10 cents a gallon lies within this range of increase.

So, this is looking at spot prices versus the -- in both Los Angeles and the Pacific Northwest. So, this is taking the spot price minus the NYMEX contract

settlement. So, this is called basis for differential and it tells us when the market is -- we're seeing much of a premium, according to the market participants and what they're willing to pay above and beyond the market clearing price of the NYMEX contract on each settlement day.

So, the prices did come back down and it came back down to almost zero and, briefly, negative. And they have rebounded, recently, with a number of unplanned outages in Southern California. And most recently, the unplanned outage in Tesoro and in ports.

The same approach for diesel, looking at retail prices in California versus neighboring states, and we're seeing elevated retail prices. With the exception of Nevada, that comparative has declined by 1.3 cents, compared to the others.

And this is looking at the diesel market. And we did have some tightness in the Pacific Northwest. They had a lot of unplanned outages affecting primarily distillate production gasoline. But that has since been rectified and the prices are down to very low levels. And we would say that the diesel market in this spot price comparative over-supplied right now, so it's well supplied with these negative numbers.

So, this is just looking at the 10 cents a

gallon, 10.2 cents average for fuels under the CAP for gasoline. It's within the range of the 1.5 to 24 cents.

And then the diesel average, which is slightly higher, 13 cents a gallon average so far, is between 1.3 and 18.9 cents. So, it's within the range there somewhere.

And so, Severin, your question about this is not quite illustrating the retail Northern and Southern California question, this is looking at the difference between branded rack price and unbranded. Branded is normally -- when the market is in balance, branded is normally higher than unbranded, as you know.

And so, the green line is Northern California, that difference, and the red line is Southern California.

So, a couple takeaways, that average between branded and unbranded has been growing since January of 2014, on average. Clearly, in 2015, a lot of spikiness. We've had periods where the branded price was much, much more elevated than unbranded. And then we see periods when it goes below the zero line, meaning unbranded is inversion, it's above that of branded.

So, that's kind of typical of significant, unplanned outages to see that kind of temporary inversion. And then, where has that been? Southern

California, not Northern California.

PMAC CHAIR BORENSTEIN: Okay, thank you.

MR. SCHREMP: You're welcome.

PMAC CHAIR BORENSTEIN: I have one question I am going to ask you, before we move on. My understanding is that California excise taxes on gasoline went down on July 1st. Is that right?

MR. SCHREMP: Yes, they did.

PMAC CHAIR BORENSTEIN: They went down by about 10 cents a gallon.

MR. SCHREMP: I think was 6 cents a gallon, from 36 to 30. And so, you see on this chart, on chart number 6, on 10/1, that's a 30-cent in the blue box, versus 36 in the previous period. That's the change in your tax.

PMAC CHAIR BORENSTEIN: Okay, thank you.

MR. SCHREMP: You're welcome.

PMAC CHAIR BORENSTEIN: Okay, we're going to move along. Tupper Hall is here from WSPA and is going to do a quick introduction of Skip York, from Wood Mackenzie.

MR. HALL: Thank you very much, Mr. Chairman and Members. My name is Tupper Hall. I'm Vice President of Communications for the Western States Petroleum Association.

We very much appreciate the opportunity to be here and participate today. And regret that circumstances did not prevent -- did not allow us to participate at the October meeting.

As you can imagine, the issues that you discuss regularly and are discussing today are among the most challenging for us to address as a trade association, from an anti-trust stand point. But we're very happy that we've found an expert that we think will provide a lot of insight into the issues you're discussing today.

So, thank you again for the opportunity to be here. And also, let me apologize for being in the middle of a delightful winter cold, so trying to minimize the hacking sneezing that you hear in the back.

So, before I ask Skip York, from Wood Mackenzie to come up, we do think there's an area, an avenue of inquiry that we would recommend the Committee look at. Which is the accumulation of regulations that have occurred in California, both from a State and from a regulatory -- excuse me, from a State and from a regional perspective over the last ten years.

The physical, the geographic and regulatory isolation of our markets have clearly been identified as one of the major factors in the higher prices we typically see in California.

And there have been a number of additional regulations promulgated in the last ten years that we think that could, potentially, be impacting that differential.

So, we think the PMAC would be well-served to take a look at that area as we go forward.

PMAC MEMBER MYERS JAFFE: And can I just --

PMAC MEMBER SWEENEY: Excuse me, I want to understand what you're saying. I want to understand what you're saying. Are you asserting that this had something to do with why this year was exceptionally high or why it's always somewhat high.

MR. HALL: More like --

PMAC MEMBER SWEENEY: I understand it's always high. So, you're not claiming that has anything to do with why this year was exceptionally high?

MR. HALL: Well, the comment, the concern is on a more general basis. But, clearly, there is a regulatory component to the situation that was experienced this year, that delayed the restart of that facility. Of which, there's other folks far more familiar with the subject, than I, have testified to.

But generally, you're correct. The comment remaining is, as this Committee looks at the continuing differential in prices, that's an area that we would

recommend that you take a look at.

PMAC MEMBER MYERS JAFFE: And can I ask you, are any of these regulatory changes between 2014 and 2015 addressed imports, meaning that it's higher to bring an import?

MR. HALL: I'm sorry, addressed, is it harder to bring in imports?

PMAC MEMBER MYERS JAFFE: Right. So, is there some change in the regulatory framework between 2014 and 2015 that --

MR. HALL: None that I'm aware of. We're more specifically looking at the cost of manufacturing fuels in California, assuming no upsets in the refining capacity.

So with that, I would like to introduce Skip York, from Wood Mackenzie, to provide his expert analysis to the situation. Thank you.

PMAC CHAIR BORENSTEIN: Thanks Tupper and welcome, Skip.

MR. YORK: So for -- so, for people who aren't familiar with Wood Mackenzie, we are an energy research and consulting firm, headquartered in Edinburgh, Scotland, but we have offices around the world.

And what we do that's a bit distinctive is we do everything from a bottoms up approach when we look at

markets. So, we cover the entire value chain from the wellhead of the upstream through infrastructure, into refining and then, ultimately, into demand.

And what we mean by bottoms up is when we look at -- when we look at the upstream, we model 3,500 different assets in locations around the world and come up with our crude production profile.

When we look at refining, we model 550 of the 580 refineries in the world.

And when we look at demand, we look at over a hundred different locations, a number of different sectors in each one of those countries, and then a number of different products to come up with our comprehensive view of markets. Not just in oil, but natural gas, coal, power, and the entire energy value chain to come up with an integrated view.

What I'm going to do today is sort of -- I'll say, sort of step back and take a bit of an international perspective or sort of, outside of California what else is happening in petroleum markets in general, but in the gasoline market in particular, to see if that lends some background and helps sort of provide some information to put things in a broader context.

And so, what you see on this first chart is that

there is a differential between prices in Los Angeles and other major refining centers. And the important thing to remember is that when there's an interruption, the alternate sources of supply to California will be gasoline from other major refining centers that can reach California. And that's namely going to be sort of the Asian market, which largely prices off of a Singapore pricing point, and then the U.S. Gulf Coast, which is volume which transit through the Panama Canal.

Now, the thing I want to just take away from this chart is that there is a premium from Los Angeles over those two other refining centers. But just because there's a premium doesn't necessarily imply that you can draw volumes into California.

So, just looking at the price differences does not tell you whether or not there is the economic incentive for volume to flow from those refining centers to the State of California.

And that's what this chart attempts to do. And so if you look at the -- you'll see, and really focus sort of in 2015, because that's when you sort of see the arbitrage window open.

So what the dark blue and the light blue lines shows is that previous price differential that you saw in the prior chart, less the cost of transportation and

manufacturing costs to move from your regional Asian gasoline, or your Gulf Coast gasoline quality, to a CARB quality gasoline.

And what you see is that the opportunity for imports to come in, and for it to be economically or commercially rational for imports to come in, that opportunity window doesn't open very often.

But it did open in 2015 and it opened for both volume coming out of the Gulf Coast and volume coming out of the Asian theater.

Now, the bars show you how much volume actually showed in, and flowed in, in millions of gallons per month. Because I thought maybe putting it in gallons would be a bit better context for, you know, the average consumer because they purchase things in gallons.

And what you see is that once that export window opened in March, you did start to see that increase in imports from abroad, which are the green bars.

And then, if you look very closely, you'll sort of see there were some bump ups coming in from the U.S. Gulf Coast, but they're much smaller than the imports coming in from foreign sources. And then --

PMAC CHAIR BORENSTEIN: Can I just ask you a question?

MR. YORK: Yeah.

PMAC CHAIR BORENSTEIN: So, the lines have shifted downward on the L.A. minus Singapore and that is because these net back, not the price differential.

MR. YORK: These are the net backs.

PMAC CHAIR BORENSTEIN: Now, can you define net back and explain what the shift is?

MR. YORK: Okay, so what I'm going -- so, what we do is we look at the price differential that exists, just the raw price differential. And then what we're subtracting off is our estimate of the freight costs from either -- and what we do is we look at India, because India is probably the -- the Jamnagar Refinery, owned by Reliance, is probably the best source of Asian -- in Asian, for CARB quality gasoline.

And then we also looked at the U.S. Gulf Coast. And what we looked at was what was the transportation of the gasoline from Jamnagar to Los Angeles, or to move from the Houston Ship Channel through the Panama Canal.

PMAC CHAIR BORENSTEIN: Can you give us an idea of what those numbers are? I guess you can --

MR. YORK: So, apply what the transportation costs are.

PMAC CHAIR BORENSTEIN: Yeah.

MR. YORK: Okay. So, what we look at is -- when I look at the U.S. Gulf Coast, you're looking at about

$10 a barrel to move it from the Gulf Coast, through the Panama Canal, and then into Los Angeles.

And the reason why it's $10 a barrel is that the challenge that the Gulf Coast is that it has a distance advantage over India, but it has a shipping disadvantage. In that cargos where volumes that move from U.S. port to a U.S. port must be moved by a Jones Act tanker.

Which means that it has to be U.S. built, U.S. flagged, U.S. insured, and at least 75 percent of the crew have to be U.S. citizens. So, they're very limited. In fact, there are only 50 of these tankers in operation.

Now, historically, about ten of those tankers are in crude service and the other 40 have been in product service.

One of the changes between 2014 and 2015 is that a number of those product tankers have been converted from product service to crude service, in an effort to move crude oil from the Gulf Coast up to the East Coast, to the refiners in Pennsylvania and New Jersey.

So, where we had about 40 product tankers sort of in 2011, 2010, 2011, we're now down to maybe 25. So, part of the challenge of the U.S. Gulf Coast is there are just fewer tankers available that meet the Federal

requirement.

PMAC MEMBER MYERS JAFFE: Can I ask two questions? Number one, what's the dead weight for these product tankers, what's the average size?

MR. YORK: So, most of them tend to be around 80,000 tons.

PMAC MEMBER MYERS JAFFE: Okay, and then --

MR. YORK: Well, I would say, of the ones that could actually move, right, there are -- but the ones that actually you would use from the Gulf Coast to California would be about 80,000 tons.

PMAC MEMBER MYERS JAFFE: So, 80,000 tons. And then, also, I think for the hearing it would help people -- I don't know if you can work with the numbers, so frequently we take the $10 a barrel and tell the audience what that is in cents per gallon.

MR. YORK: It's about 25 cents a gallon.

PMAC MEMBER MYERS JAFFE: So, 25 cents a gallon.

PMAC MEMBER HACKETT: Now, Dr. York, Dave Hackett. Are you aware, were there any movements on American flag ships from the Gulf Coast to California in the --

MR. YORK: What we've seen, we've seen a small trickle of about 3,000 barrels a day, which is going to be about one tanker every six weeks. So, we've seen a

little bit, but not much.

PMAC MEMBER HACKETT: Thank you.

PMAC MEMBER SWEENEY: And you'd think if that was the binding constraint, then the rates, the prices of shipping would have gone up quite significantly. Did you observe that?

MR. YORK: Jones Act shipping rates are elevated over where they were sort of in 2010. They've come down a bit this year because of -- just because of the low crude price environment, there's less --

PMAC MEMBER SWEENEY: But I'm saying, in 2015, did you see a significant difference in those shipping rates from what you did in 2014 or before?

MR. YORK: So, they're lower than they were in 2014, but they're elevated from where they were in 2010.

PMAC MEMBER SWEENEY: Sure. So, that probably wasn't the constraint that made a difference as to whether things can be moved, or else if there was a constraint, the prices would have spiked.

PMAC MEMBER MYERS JAFFE: Yeah, people would have bid up the ships.

MR. YORK: Well, the constraint that it provides is that you don't -- you have fewer Jones Act ships and the product ships that are there are already obligated to do what we term go on other routes. Say, go from the

U.S. Gulf Coast into more --

PMAC MEMBER MYERS JAFFE: Well, but why wouldn't the rates for those ships go up if somebody else wanted the route and they could just offer to try to bid up somebody's tanker. Why didn't nobody do that?

MR. YORK: I'm not sure I follow the question.

PMAC MEMBER MYERS JAFFE: In other words, I've got a commitment for a tanker and I'm going to spend a certain amount of money for it, and somebody else comes to me and says, hey, I'm desperate to put this product into L.A., I'll pay you a premium to take that ship from you and have you cancel your shipment. And people do that and the tanker rates go up.

MR. YORK: Yeah, and the reason why that didn't happen is that the tankers weren't available because of a contractual obligation. There isn't a rate you can offer that --

PMAC MEMBER MYERS JAFFE: It's a market. The tanker market's a market. The contractual obligation doesn't mean anything. I can release it back to the market and fill my supply some other way.

MR. YORK: No, if I have a volume commitment to Florida, I cannot declare force majeure because California's short gasoline.

So, it's not that the tanker couldn't be

repositioned, it's that the guy that charters the tanker has a volume commitment to another place. And that's what's made it difficult to --

PMAC MEMBER MYERS JAFFE: And why wouldn't he meet his commitment to Florida with a cargo from Europe or some other place and why -- or for the Gulf Coast, and why wouldn't he then release his tanker if he could make a profit reselling the tanker?

MR. YORK: Well, that's probably what's happened with that one ship that's moved is that there's somebody who can make that supply chain work. And that's why we have seen an increase in flow, but it's a very small number because -- the increase in volume coming from the Gulf Coast into California, there's been an increase, but it's a very small number, volumetrically.

PMAC CHAIR BORENSTEIN: Okay, I do want to let you get through this and we are -- can you just tell us about the Asian shipping costs, before you move on?

MR. YORK: Yeah, so if I move from -- if I'm moving from India, into Los Angeles, that's going to be about $6 a barrel, or about 15 cents a gallon.

So, the challenge that the -- so, the Gulf Coast is challenged by ship availability and by getting through the Panama Canal and having to deal with that congestion. But the congestion is something that's sort

of always existed, so that's a sort of a known. There's nothing different about the congestion in '15 versus prior years, around the Canal.

But if I'm sitting in India, then I have a distance disadvantage, although I have a cheaper freight rate, but it takes me longer to get there. And it's also -- in our estimation, it's a higher -- the manufacturing cost or the incremental cost of making CARB gasoline is higher in the Indian refineries than it is in the Gulf Coast refineries.

But that's measured more in the -- sort of in the -- you know, we think it takes about 10 to 15 cents a gallon for a Gulf Coast refinery to reposition to make CARB gasoline, and we think it's like 20 to 25 cents. So, it's not a big difference to the Gulf Coast, but it is a bit of a difference.

PMAC CHAIR BORENSTEIN: So, you're estimate is it's about 10 cents more per gallon to make this in Asia, in India?

MR. YORK: Over the Gulf Coast.

PMAC CHAIR BORENSTEIN: Over the Gulf Coast.

MR. YORK: Yeah.

PMAC CHAIR BORENSTEIN: But just to bring all that together, then if you put together the shipping costs, I'm assuming the Gulf Coast is similar to the

California cost of producing CARB gasoline.

MR. YORK: It's a bit higher because what they have to do is they're running a refinery of sort of conventional gasoline, and now they have to repurpose it back, and so there is a cost of making that move, but it's 10 cents a gallon. So, it's something that's doable for a portion of the gasoline.

PMAC CHAIR BORENSTEIN: So, we think a California refinery's costs are an extra ten cents a gallon to make CARB gasoline. You're saying a Gulf Coast is 20 cents a gallon extra to make CARB gasoline. Or, is that -- am I adding the numbers --

MR. YORK: No, I would say it a different way. So that when the refiner says -- when the refiner in the Gulf Coast is running his refinery as normal, and he decides to go to make CARB, when he tells the refiner crew to make that change, they're incremental costs are going to go -- their incremental gasoline manufacturing costs are going to go up 10 cents a gallon.

PMAC CHAIR BORENSTEIN: Okay, so for the refinery in the Gulf, the difference between -- just to be clear, reformulated or conventional is the starting point here, or does it not matter?

MR. YORK: It would be coming from their conventional reformulated, so the non-CARB reformulated.

PMAC CHAIR BORENSTEIN: Okay, yeah, Federal reformulated.

MR. YORK: Federal, yeah, fair enough.

PMAC CHAIR BORENSTEIN: So, an extra 10 cents to produce CARB. And in India, you're thinking it's an extra 20 cents?

MR. YORK: 20, yeah.

PMAC CHAIR BORENSTEIN: Great, thank you.

MR. YORK: And so, before I move on to the next chart, the one thing I want to point out is that you see the decline in the imports, in the month of July. But the reason why they decline is if you look back to the month of June, that export window closed. And so, in the month of June refiners in both Asia and in the Gulf Coast were looking at a price signal for July that said it's not going to be economic to make that -- to make that next cargo and send it because it's not going to show up for another month.

PMAC CHAIR BORENSTEIN: And so, why do you think that was? Is that because of the belief that there were going to be more in-state supplies by then?

MR. YORK: Now, part of it -- you know, part of it might be sort of a California fact, right, that prices in California were easing because people were expecting the Torrance unit to come back online.

Another part of this, stepping back on the global perspective, is that the global gasoline market is growing at some of the fastest rates we've seen. So, there was another issue is that the opportunity cost of going to California was rising because gasoline prices and gasoline exports around the world were widening. It now meant that it was now more attractive, if I'm sitting in India, and my Asian gasoline cracks are rising, it's just more attractive for me to sell it into a closer market than California. And so, that's part of the reason why that window closed in June.

Part of it also might be the speculation that the Exxon unit was coming back.

But when the Exxon unit didn't come back and California gasoline prices rose in July it -- you know, I'll go back a chart, it opens up that window again.

So, part of what I want to do is on chart four, is to put this in the context that we are -- it's the supply and demand balance in California has been disrupted by losing a unit. But globally, the supply and demand balance for gasoline has been tightening at a rate that we haven't seen in, you know, in a decade. And, in fact, in more than a decade. This is one of the strongest gasoline growth markets -- growth years we've seen globally.

PMAC MEMBER MYERS JAFFE: Can you balance that against how many refineries were added in India and China and what years they came on? Because weren't there a number of new refineries that came on in Asia in the same window?

MR. YORK: They would have come on prior to 2015. But if you look at sort of that 2012 to 2014 -

PMAC MEMBER MYERS JAFFE: But wasn't there a surplus? Wasn't there a surplus of capacity in Asia that needed to be worked off?

MR. YORK: Well, there was a surplus in Asia prior to 2015, you know, of gasoline.

PMAC MEMBER MYERS JAFFE: Correct.

MR. YORK: Because diesel was the -- diesel was what everybody was chasing. So, what's happened, starting in '14, but we really saw it in '15 and it will continue into '16, is that for a prior decade you had refiners around the world trying to figure out how to make more diesel, because it was a more valuable product than gasoline, in virtually every market in the world.

And so, but gasoline demand kept growing because people kept buying cars. So, now what's happened is they were chasing the diesel market, putting in capacity to make that, and the gasoline market tightened up because that wasn't what they were looking to make.

So now we're in a tight global gasoline market until the refiners get the price signal to try to figure out ways to increase their gasoline --

PMAC MEMBER MYERS JAFFE: So, when do you think that transition took place, because it definitely didn't take place in 2014. And this year China, their gasoline demand's been okay, but they're whole country's in a recession, and most of Asia's in a recession, and Japan's in a recession. So, they had all the capacity in 2014, we're in a recession in 2015. So, can you talk a little bit about what the time frame was for this transition from the refining capacity surplus in Asia deteriorating over a 12-month period in the middle of a recession?

MR. YORK: Well, just because you're in a recession doesn't mean the demand isn't growing.

PMAC MEMBER MYERS JAFFE: Well, so tell about --

MR. YORK: So, what we're seeing in China, in particular, is we're seeing the transition of an economy from a manufacturing economy to more of a consumer-led economy.

PMAC MEMBER MYERS JAFFE: Well, I just want to hear the numbers. In other words, can you say a million barrel a day surplus in refining capacity, or 500,000 barrels a day, or 2 million barrels a day surplus in

Asia, in 2014, and it shrunk to the following thing in 2015 because of rising demand across Asia. Can you actually provide us with those numbers?

MR. YORK: Well, what -- yeah, I'm not sure how we can -- so, what you're asking for is how much capacity was added --

PMAC MEMBER MYERS JAFFE: Correct.

MR. YORK: -- in Asia, sort of like since 2010.

PMAC MEMBER MYERS JAFFE: Right, and then you had this surplus, which I'm fairly aware of, that was XYZ million barrels a day, which is data I can provide to the Committee in the future. So, I'm wondering if you know it off the top of your head, but clearly you don't.

MR. YORK: No.

PMAC MEMBER MYERS JAFFE: Right. Oh, you don't know it off the top of your head, okay.

MR. YORK: No, I don't. Well, but what I can tell you is that refining -- I'm not -- we can provide the number, but the important thing to remember is the refining capacity added since 2010 was geared towards diesel, not towards gasoline.

PMAC MEMBER MYERS JAFFE: But in the end, why isn't some of the other players specifically -- specifically put their new refineries together to be

able to produce RBOB and CARBOB? That was part of their strategy.

MR. YORK: Yeah. Well, what Reliance has done is that Reliance, and it's similar to the refineries being built by Saudi Arabia, is that they're export-oriented refineries are being built to be able to make any product in the world, any quality. So, not just to make the CARB gasolines, but also to meet sort of European fuel specifications, as well.

They're trying to make those -- those new refineries are trying, both the Indians and the Saudis are both trying to make their refineries as flexible as possible on the product side.

PMAC MEMBER MYERS JAFFE: Correct, because they want to catch the arbitrage.

MR. YORK: So, exactly.

PMAC MEMBER MYERS JAFFE: And when the market goes up that is their design. It's hard for me to believe that it actually costs them 25 cents to make that arbitrage since they've designed their refineries to capture it quickly. But anyway, I'll look at it. Thank you.

PMAC CHAIR BORENSTEIN: Okay, we're going to once again move along here and let Skip finish.

MR. YORK: Yeah, so the big take away, I guess

the final point to make on this chart is that -- you know, that spread, which is the difference between the price of gasoline and the price of crude, has been above its five-year average for -- really, starting in late '14 into '15. We think it stays above the five-year average until late in 2016, on a number of --

PMAC MEMBER MYERS JAFFE: But isn't that mainly because crude oil prices have been collapsing steadily and so, therefore, refiners are benefitting from the falling price of crude oil feedstock?

MR. YORK: So, but the price of crude oil is falling because crude oil is over-supplied. But the price of gasoline is staying relative strong, although they're down on an absolute basis. They're staying relatively strong because of the growth you're seeing in global gasoline demand. And that's why those cracks are staying wide.

Because gasoline prices are coming down, but they're coming down slower than crude prices because gasoline demand is so strong on a global basis.

PMAC CHAIR BORENSTEIN: Okay, thank you.

PMAC MEMBER MYERS JAFFE: Or, maybe refiners aren't passing the profit along, but anyway.

PMAC CHAIR BORENSTEIN: Thank you.

MR. YORK: So then the -- so, the next thing,

and I guess this is the -- I think this is the final chart I want to show is -- and this is largely just another way to look at storage.

And what I did here is, you know, we typically like to look, think of inventory in terms of days of coverage. That the reason why you hold a barrel of produce or a barrel of crude is because there's going to be demand for it at some point.

And so, we typically will look at days of coverage, which is just simply taking the number of barrels in stock and dividing it by demand.

And so, what I've done here is what I thought would be an interesting comparison is to compare PAD 5 days of coverage to PAD 1 days of coverage, because they're both coastal imports of product.

And so, if you kind of look at it, they tend to be sort of in the low 20's -- of days of coverage, of about the low 20's. You'll see the seasonal build because they'll tend to build when they're in the winter, because there's less demand, but you're getting ready for the next driving season.

And what you do see is that when -- you know, when Torrance upset, is you do see that the decline in days of coverage declined both -- you know, declined in California earlier and faster, but days of coverage have

gone down in both markets.

And part of that is largely, if you look at the PAD 1, that kind of just shows you the seasonal effect. But the reason why I brought the chart out is if you look -- these two days of coverage try to line up on each other. And so the difference between those two shows you a bit of the how fast -- going back to the earlier, how fast were they -- how many days of coverage were the refineries in California or the system in California using up in an effort to replace the lost production from Torrance.

PMAC MEMBER MYERS JAFFE: So isn't it unusual, in general, for gasoline inventories to decline between November and May? Isn't that what you're showing that phase forward cover actually declined. Was that because demand was rising unexpectedly and refiners didn't really inventory?

MR. YORK: Well, you'll tend to -- well, you're building. If you're looking at the end of the chart, you're building inventories from November '14 to January '15. You're getting -- and part of that is just the lower demand in the winter.

PMAC MEMBER MYERS JAFFE: No, I understand that. But it doesn't extend -- it unusually doesn't extend, you know, past January. And in the case of California,

it doesn't extend past November.

So, in other words, California --

PMAC CHAIR BORENSTEIN: Are you talking about 2015?

PMAC MEMBER MYERS JAFFE: Yeah, 2015.

PMAC CHAIR BORENSTEIN: Okay, but that's when we had the outage and you would expect inventories to decline.

PMAC MEMBER MYERS JAFFE: Yeah, that's right. But it didn't happen even on the East Coast, so that's a little strange.

PMAC CHAIR BORENSTEIN: No, it's --

PMAC MEMBER MYERS JAFFE: So, is there something going on in the -- no, because they didn't --

PMAC CHAIR BORENSTEIN: East Coast inventories are higher in May 2015 than in November of 2014.

PMAC MEMBER MYERS JAFFE: No, but before, I'm just wondering -- well, let me look at it different here. Nope, that's right. I'll think about.

MR. YORK: Okay.

PMAC CHAIR BORENSTEIN: Okay, more questions?

PMAC MEMBER SWEENEY: Yeah, I just want to make sure I'm reading the graph right because suppressed zeros always distort, unless you're careful about it.

So, the difference between the blue and the red,

in days in coverage, say, in about May, June, July in the summer, we're talking about one day of coverage difference, 22 versus 21.

So, I would characterize it as not that big a difference if you didn't have a suppressed zero. It's about one day of coverage as opposed to 20, so it's a five percent differential. Is that a correct way of reading the graph?

MR. YORK: Right.

PMAC MEMBER SWEENEY: So, I have the numbers right. Thank you.

PMAC CHAIR BORENSTEIN: So Skip, on that point, given what's happened in California, it seems like that seems a bit surprising that you wouldn't see a bigger drawn down. What are they holding it for, if not a dollar spread?

MR. YORK: Yeah, so part of that is -- and part of the reason why I kind of went back to 2012 is it kind of shows that there's -- you know, there's stocks that you hold, but there's an operational amount that you can draw. You can't draw the stocks down to zero.

And so, if you kind of look at it, it looks like 18 days of coverage is about the minimum stock that you can hold, both in California and in PAD 1.

And what you see is that we did try to get

down -- we didn't get all the way down to 18, but it looks like we kind of got down near the operational minimum of where we've seen it before. Where we've seen sort of California days of coverage hit the bottom is about where we were by the time we got to the end of the summer.

So, part of it could be that they drew down as far as they could, but for operational, they couldn't go any deeper for operational reasons.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER MYERS JAFFE: So, one last point. So, the thing that's interesting about this chart and maybe that's part of the thing is that if you look back into the numbers for 2012, in California we were holding something like 27 days of full cover, and then we drew down to 18 days.

Whereas, we're starting in 2014 at a much lower level, or a somewhat lower level.

MR. YORK: Yeah. So, we started with a bit of a -- we were starting in a -- California started in a less advantaged position than it did in 2012 or even 2013.

PMAC MEMBER FOOTE: Skip, can I just ask, you said they can't be drawn down beyond a certain point for operational reasons. Just briefly, for my edification,

what are the operational reasons?

MR. YORK: So, a lot of it is that you -- so, for example, you've got the wait and pull storage out. Because one of the things you have to worry about, especially the gas is you've got to worry about there being too much air space in the tank because it starts to get right in the gasoline, if you get in there.

So, you've got to be careful about how much air is in the top of the tank and that's one of the reasons why you can't drop down any further than your operational minimum.

There's also storage in the tank. There's material in the bottom that isn't commercial grade. It's because it's collected, just it's collected sediments and whatnot and you couldn't sell it off.

PMAC MEMBER FOOTE: Is that standard --

MR. YORK: It wouldn't meet specifications.

PMAC MEMBER FOOTE: Is that standard from one refinery to the next or does it vary?

MR. YORK: The amount of like air cover and --

PMAC MEMBER FOOTE: Yeah, yeah, the level.

MR. YORK: Yeah, that's probably fairly standard.

PMAC MEMBER FOOTE: Thanks.

PMAC CHAIR BORENSTEIN: Okay, now I have to ask

you one technical question. On a tour of a refinery I was told that the roofs of these storage tanks float and so that you can draw them down without oxidizing.

MR. YORK: Well, when you draw them down, then the roof comes down. Not all roofs come down, but when they do come down, you know, they're not air tight. And so, you've got to be concerned. And so, there's different types of tanks and some tanks have different operational limits.

So, one of the reasons why we put the floating tanks in is because it gives us more space in that tank.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER HACKETT: Dr. York, Dave Hackett. I think there's a question out here about days covered. And you certainly can see that in 2012 the days coverage was significantly higher than it was in '14.

And I was wondering if you have any thoughts about that? And I was also wondering if you could address the crude oil market, or carbon market in general, compare the fall of '12 with the fall of '14 and into '15?

MR. YORK: So, the -- I guess let me start at the second question, first. I think the big difference in sort of the petroleum market, sort of between the fall of '12 and the fall of '14 is really being driven

by the oil price. In the fall of ’12, we were in a world where bright crude oil was selling at $105 to $110 a barrel. And in the fall of ’14 we were into a world where crude oil was probably in the $70 range and still falling.

Now, that won’t, from a days of storage perspective, there’s a tax, a potential tax issue out there. That I put stuff in the tank at $100 crude, but now it’s worth $70. And I’m about to incur a tax gain on that volume if I’m still holding it at the end of the year.

So, some of the stuff that happens in the end of a year is an accounting exercise in order to -- in order to sort of -- you know, in order to optimize their tax exposure.

So, and that would have been one of the things you would have seen going into ’14, is that in ’12 that difference between -- you know, since the oil prices were fairly stable, the tax consequences for the inventory was fairly small. Was much smaller than the tax implications of holding those barrels in storage at the end of ’14.

Now, the problem, then, is that I’m making that -- I’m optimizing my tax position at the end of ’14 and I don’t know that that upset’s going to occur in

February.

PMAC MEMBER SWEENEY: I find it very difficult to totally internalize all of these numbers on the fly. That means I'd like to look at the native spread sheets. And are you posting -- will you post all of these data as spread sheets, either through the California Energy Commission, and the web, so we can look at them a little bit more carefully, at our leisure, afterwards?

MR. YORK: Sure, sure. So, yeah, we can put together a spread sheet that has the underlying data of the charts.

PMAC MEMBER SWEENEY: Yeah, thank you. That would be very helpful for me, thank you.

PMAC CHAIR BORENSTEIN: Thank you. Actually, yeah, let me ask you one question. So, the increase that we've seen in California started with the Exxon Torrance fire and the relative price increases.

And I was looking yesterday at the CEC numbers, at least on what they call costs and profits of refineries. Is there much variation in the cost part of that number? Basically, can we -- is it safe to say that, if anything, refinery costs of operation have been lower in 2015 because natural gas is an input as well, and that must have been incredibly cheap this year.

So, is there any reason to think costs have been

high in the refinery business?

MR. YORK: So, if I don't --

PMAC CHAIR BORENSTEIN: Taking crude aside, of course.

MR. YORK: Okay.

PMAC CHAIR BORENSTEIN: Yeah, taking the crude out.

MR. YORK: Yeah, my first question was are we looking at the --

PMAC CHAIR BORENSTEIN: Yeah, I'm talking about the operations.

MR. YORK: So, if we're looking at the operational costs, we haven't seen much compression in '15, over '14, except in natural gas.

PMAC CHAIR BORENSTEIN: Yeah. And so, unfortunately, the CEC, and I would argue they should change, just posts tables, not spread sheets of this stuff, so it's hard to download. Or, at least I couldn't find the spread sheets.

But in eyeballing it, it looked like that number, costs plus profits, is typically about 50 cents a gallon or 40 cents a gallon.

If that's right, what share of that -- can you give us a ballpark how much of that is -- obviously, in some sense, profit not being -- covering return on

investment, but operating profit.

MR. YORK: The operating. Okay, so of the 40 cents, of the 40 cents a gallon how much of that, roughly, might be profit -- or the profit versus the cost?

PMAC CHAIR BORENSTEIN: Yeah. Obviously, by profit, we mean a return on investment, and they are making big capital investments. I understand that. But profit above the operating costs.

MR. YORK: Yeah, so probably within that 40 cents it's probably -- in the current environment that the refiners are in, it's probably 25 percent of that number would be sort of an operating profit and the other 75 percent would be the cost.

PMAC CHAIR BORENSTEIN: So, roughly 10 or 15 cents a gallon is not a -- in normal operating times.

MR. YORK: Yeah.

PMAC CHAIR BORENSTEIN: I'm not asking about -- 2015 has been a different world.

MR. YORK: But in the normal operating times -- yeah, so in normal operating times you're probably looking at about $5 to $8 a barrel, which would be more than 10 to 15 cents a gallon.

PMAC CHAIR BORENSTEIN: That's great. I have no more.

Okay, thank you very much. And you're sticking around for the panel?

MR. YORK: Yes, I am.

PMAC CHAIR BORENSTEIN: Excellent, thank you.

Okay. Lynn, are you on the phone?

MR. WESTFALL: I am, indeed.

PMAC CHAIR BORENSTEIN: Thank you very much for your patience. I'm sorry we're running behind. I'm not terribly surprised, given me and the Committee.

MR. WESTFALL: Yeah, I work for the government, as well.

PMAC CHAIR BORENSTEIN: The government employees in this room have just winced, I'll let you know.

(Laughter)

MR. WESTFALL: I'll wait to get control here, when he pulls up the presentation. Am I in control, now?

MR. EGGERS: No, I'm going to try to transfer control to you in just a second. Hold on.

MR. WESTFALL: Well, I'll just start off with my opening remarks. First of all, good morning to you and good afternoon to me. I'm glad to be here today. But when I looked at the agenda for today's meeting, I thought the most important thing was going to be the panel discussion, so I'm going to keep my presentation

brief.

PMAC CHAIR BORENSTEIN: Great.

MR. WESTFALL: And I thought, with all the information you've gotten already from others, maybe it would help the discussion for me to shed some light on how refiners go about planning their petroleum product production.

By way of a quick introduction, and I don't see my presentation up here, yet.

MR. EGGERS: Yeah, Lynn, you need to share your desktop for us to be able to see, if you have the presentation on your desktop.

MR. WESTFALL: Okay, and that would be -- I sent it to you, though, didn't I?

MR. EGGERS: Yeah, I transferred control to you. I'll take it back and what we'll do is I'll just go through your presentation on our side here.

MR. WESTFALL: Okay.

MR. EGGERS: So, hold on one second.

MR. WESTFALL: Again, by way of introduction, I'm here today following 38 years in the refining business, after graduating with a degree in civil engineering. I've been lucky in those 38 years to have operational assignments in virtually every area of the business. From running around units, changing the dials

and recording things as a process engineer. I was a crude buyer for a while. I spent 13 years in California running a supply and marketing operation for a refinery in Southern California. And about five years ago I retired as a Senior Vice President for the Tesoro Corporation.

I came out of retirement about two and a half years ago, mostly due to boredom, and now working for the Energy Information Administration, which is part of the DOE. I run their Office of Energy Markets and Financial Analysis.

Part of my duties are that my group is charged with monitoring and analyzing domestic petroleum markets. And when we can, provide an insight in petroleum product prices and products movements.

Invariably, we get the call from the hill when there has been a price movement in one area that is bothering a Senator or a Congressman.

If you can go to the next slide? As a prelude to the panel discussion, though, I do need to let you know that Federal regulations preclude EIA from advocating policy. We can tell you the consequences of going down path A, or the consequences of path B, but we cannot recommend one over the other.

All right, so what are we talking about when

we're talking about refinery production types?

The next chart, please. Ninety percent of production involves crude selection. That's the one thing refiners feel that they can control. It's the one thing that could provide them with potential advantage. So, much of the rest of this presentation is on the process of crude selection.

But product planning also includes running the units differently. You can make slight changes to the units, to their rates and their conditions. Planning the overall run rate.

And then, when you've done your crude selection, your unit operations, and your overall run rate, you've pretty much set your product slate.

The tool that refiners use to do this is a very sophisticated refinery simulation model. It's different for every refinery. And it is meant to mimic exactly what happens inside every refinery unit. And it's constantly updated to make sure that it does mimic exactly what happens in a refinery unit.

And, of course, the objective of refinery production planning is to maximize refinery profitability.

Crude selection is important because there are a wide variety of crudes to choose form.

The next slide, please. This is just an illustration on -- I think I put in about two dozen crudes here, from around the world. Which you can see how they vary in their qualities with density, API gravity being on the horizontal access, and percent sulfur being on the vertical access, and it runs the entire gamut.

You can see the one blue dot, in the lower, right-hand corner, being the Eagle Ford production out of Texas. That's very light crude and very sweet crude, and it has less sulfur.

All the way up to the upper, left-hand portion, Maya crude coming out of Mexico, which is very heavy and has a lot of sulfur in it.

So, refiners are always trying to choose their optimal slate from this and another couple hundred crudes available around the world. And the optimal slate is different for every refinery. It's different for every month and different for every season.

And on the next slide I want to illustrate how refineries are very different in the types of crude they are designed to run and the challenges that come about when you try to run different types of crudes.

What this slide shows are four different types of crude oil, Eagle Ford out of Texas, Bakken in North

Dakota, Alaskan North Slope, and Canadian Bitumen. And the first axis is the boiling point, ranging from minus 200 degrees Fahrenheit all the way up to 1,600.

And the vertical axis, although I didn't label it, is the percent of the crude that boils off at each temperature.

So, for instance if you look at the green line, which is Eagle Ford, you can see a lot of Eagle Ford, percentagewise, boils off between -- oh, let's call it zero and about 300 degrees.

To contrast that with Canadian Bitumen, that doesn't even start boiling off until about 600 degrees.

The reason the boiling point is important is because it's indicative of molecular sizes, and that's the next horizontal access that's shown is the number of carbon atoms. And that's important because that determines which petroleum product the crude oil naturally has occurring.

So, gasoline generally contains molecules that have between 4 and about 12 carbon atoms. And you can see that a lot of Eagle Ford and Bakken already fall into that range. And what that means is a refiner that's going to run Eagle Ford and Bakken does not have to do a lot of chemical work to get the big molecules into the elements of gasoline.

On the other side, a refiner that's going to run crude, like Canadian Bitumen, has do a lot of refinery work to break up big molecules to move them into that zone for gasoline and for diesel.

Looking specifically at California, the next slide, and I just picked one month, which is December of 2014. And when I looked at the data, I found that California refineries ran 23 different types of crudes, 12 of them foreign, 11 of them domestic. And you can see the range here on the crude gravity goes all the way from very heavy crude, at about 18 gravity, all the way up to very light crude of 40 gravity.

The same thing on the sulfur levels, running from very low to very high.

So, this the world that refineries chose as their optimum runs for crude oil in one given month. And you can imagine the complexity of trying to do that.

Another complicating factor is that the same crude can have widely different values to different refineries. So, no one refinery is looking at the same optimization of crude.

If you look at the next slide, I just picked the fourth quarter of 2014 and I looked at six refineries in the Gulf Coast and the Midwest that run WTI crude. And looked at, first of all, transportation costs. Now, for

those refineries it runs from 25 cents a barrel up to $5 a barrel. So, again, a wide range of costs for the crude.

And when you look at the product yield and the prices for the individual markets that these refineries serve, the value of the products come out, varied from at about $84 a barrel up to about $88 a barrel.

So, all of this is really just meant to say that production planning is really around crude selection. It's very complicated. There are a wide variety of crudes to choose from and every refinery is different.

But as I did say at the beginning, the next slide, refinery operations also, and overall run rates are part of planning. Unit operations offers some flexibility in a refinery to change product yields. And these are rules of thumb, any refinery can argue with these. But in general, you can change about 10 percent of your production between gasoline and diesel, being driven by the differentials between gasoline and diesel.

In general, you can switch about 15 percent between diesel and jet fuel.

When you look at setting your overall run rates, it's done on an incremental profit. The model that you use will keep choosing a crude to run until that crude reaches a zero incremental profit.

Now, the positive side of incremental production rates is that refiners are very heavy into fixed costs. These costs are about 45 percent of the total costs. So, refiners are having natural incentive to run at high rates to spread those fixed costs over more production barrels.

Now, the down side of incremental refinery runs is that as you produce more, some of the production may have to be sold for a lower price. It may have to be sold in markets with higher transportation costs, or it may have to be sold in different price markets. For instance, you may reach a certain point in production where you could not sell it locally, you'd have to sell it into an export market, which is at a lower price, and you may choose not to produce that gasoline.

Or, it may be a choice between selling it to the unbranded versus the branded market.

So, again, this really was just meant as background material. I'm hoping that the discussion we have in a minute will get more to the point of the price changes in California and I look forward to that discussion.

PMAC CHAIR BORENSTEIN: Thank you, Lynn. One quick clarification. When you say fixed costs are 45 percent of total costs, that is excluding the cost of

crude, I assume?

MR. WESTFALL: Yes.

PMAC CHAIR BORENSTEIN: Yeah, okay.

PMAC MEMBER MYERS JAFFE: And can I ask your historical recollection and see if it matches mine? I mean, there have been times in the U.S. market where refinery profits were very high and the industry is operating something like 98 percent of capacity. Say, in 2007, some of these periods in the past.

MR. WESTFALL: For a very short period of time they can operate those rates. Generally, over a longer term, say the course of a year, I think most people would say that a 90 percent operating factor is about the best you can do. Although, in any given month you can do better than that. But I think over the course of about a year or so, 90, 91 percent is about all you can run.

PMAC CHAIR BORENSTEIN: Great, thank you.

PMAC MEMBER FOOTE: Oh, just one more quick question. It's Kathleen. The incremental production seems to be the big factor seems to be transportation cost. Is that true?

MR. WESTFALL: Not necessarily. It could be. The farther away, of course, you have to absorb more transportation costs, so you're net back price could be

lower. But not necessarily if that market -- it depends on who absorbs the transportation cost. The market has to pay that as a premium to attract supplies from your area, then the differential will offset the transportation costs.

PMAC MEMBER FOOTE: Okay, thanks.

PMAC CHAIR BORENSTEIN: Thanks, Lynn. Yes, please do hold on and we're going to have one more presentation, and then we will move to the panel discussion.

Jamie Court is here from Consumer Watchdog. And, Jamie, we're going to try to hold you to ten minutes, but I am adjusting for every interruption, sort of.

MR. COURT: Thanks. I'll try to do ten minutes. If I can get this working, is that for one thing, which is more information. I mean, we spent a lot of information, for instance, on Skip's slide about PAD 5 and, you know, really generalized in California. And that's what we had. But California, 67 percent of the production is PAD 5, but not all of the production in PAD 5. We have pretty good information about supply.

But I just wanted to bring it back to the fact that today, in California, even with supply normalized, we're still 75 cents above U.S. prices in L.A., and 65

cents above prices in the rest of the State. And the reality is, if you take the 10 months where we saw these price spikes, go through the end of November, the difference between what U.S. drivers paid and California drivers paid, $9.6 billion.

So, over this year, $10 billion is going to be the added freight that Californian's are paying. And we even took out the extra differential in taxes for these 10 months and came at $8.1 billion, or $341 more per driver. That's what Californians are paying after a tax differential with the U.S. because of our higher gas prices. And that is --

PMAC CHAIR BORENSTEIN: Does that number include the Cap and Trade premium, or is that just a tax premium?

MR. COURT: Well, we took out the tax.

PMAC CHAIR BORENSTEIN: Not the Cap and Trade premium.

MR. COURT: Which is about 10 cents a gallon.

PMAC CHAIR BORENSTEIN: Right.

MR. COURT: So, if you take out another -- take out another billion and we're at $7 billion over 10 months.

PMAC CHAIR BORENSTEIN: And did it do any adjustment for differential costs in producing CARB

gasoline?

MR. COURT: No, so $6 billion.

PMAC CHAIR BORENSTEIN: That's what I'm saying.

MR. COURT: My point is the Star Wars -- I read in the paper this morning, Star Wars, globally, the series grossed $4.4 billion in its lifetime, worldwide.

California's oil refiners have made $10 billion more off our -- if you want to go conservative, say $7 billion after adjusting for all of the things that the oil companies say are extra in California. It's an astounding amount.

And so what I'm trying to do today is going beyond the supply side, which we've talked about. Obviously, in the profit reports, we've seen Tesoro and Valero have the best first three quarters ever off of California oil refinery. They are the only oil refiners that break out California oil refining profits.

And I urge you, as a recommendation to this Committee, to have all refiners in California do it.

Tesoro saw a four times the average profit, but their profits in the third quarter, the first three quarters, four times the average in the third quarter for Valero, 12 times the same quarter last year. They're just through the roof.

And you can see it in the CEC margin breakdowns

where last year we were paying roughly $3.77 a gallon, most of it was going to crude. Now, the vast majority is going to the station margins and the refinery margins.

And I would also say that the station margin breakdown here, it's not clear to me how Gordon makes the break. But I actually think a lot of that belongs in the refiner margin, and maybe we can talk about it in the panel.

Because what we've seen is in addition to the supply problems, this is what we presented last time, when there are periods of normalcy in supply, we have seen this huge, unprecedented gap between branded and unbranded rack prices, that I've talked about before.

This is what we showed last time. Historically, going back to 2005, we'll see a 4 to 5 cent average. And only in this year have we seen this unbranded/branded rack price go up to over 30 cents. We overlaid the gap between branded and unbranded racks and with the inventory levels, and I think what you can start to see a pattern of, the green line is obviously the difference. And what you'll see is when we have supply disruptions, you'll see, obviously, the low supply driving the higher price.

But in peaks like May, look at May when we're

back in the zone, we start to see the unbranded/branded rack gap, up to 30, 35 cents. What that means is that 80 percent of the stations, which are branded, there is a price that's going to be 30 cents higher than what's at, you know, unbranded stations. It's a way of --

PMAC CHAIR BORENSTEIN: Just to clarify, these are rack prices?

MR. COURT: These are rack prices. And I'm going to get to them in a bit, yeah.

PMAC CHAIR BORENSTEIN: Okay.

MR. COURT: And they're CEC prices, so this is CEC data.

Now, we talked about this in the last meeting and it's particularly troubling in the case of Tesoro, which went and bought the ARCO brand and pledged that it wouldn't charge ARCO stations anything different than it would in the unbranded market, and actually made a pledge to that effect.

But what we're seeing is, if you look at October and November, do you see how we're coming back down on the branded/unbranded rack to, you know, something that's more normal, historically?

Well, there's a new phenomenon, and this is something we're going to talk about today. There's a new phenomenon and this just, I think, bolsters our

point for greater transparency. The information we're getting through OPIS about branded and unbranded racks, the information that CEC is getting is being subverted by a new tactic that started, as we understand it, in May and June, and has escalated.

Valero, Tesoro, ExxonMobil are working through a whole group of super jobbers. These are people who go right to these refiners and these refiners are giving them, basically, real deals on gas that they then sell to unbranded stations, this is in the unbranded market, at really cheap wholesale prices.

Let me show you one of these super jobbers, NGL. NGL is a supper jobber. This is the sheet. They're selling gas, on December 11th, at $1.53 in the unbranded market.

And let's take a look at the same pricing at the rack, for unbranded, in Van Nuys, a buck 83. So, we're seeing the unbranded rack 30 cents higher than these bulk, dark trades that have only, to our knowledge, and maybe Lynn can talk about this, have been seen this year.

And it's a way of hiding from the spot market price, in OPIS, what the real price of gas is. Because the real price of gas is what they're selling on the unbranded market. And this is while you'll see at

unbranded stations, or Costco, an unbelievable difference between what you will pay there and what you will pay at the branded market.

So, these refiners, in the 20 percent of the unbranded market, are basically dumping the cheap fuel. The wholesale prices are significantly cheaper than the spot prices published by OPIS, which is the information we really have before us, and the information that traders and dealers have when they make their trades and deals.

The station owners don't see these special deals, including the unbranded folks who buy at the rack, or the branded stations. And as a result, the ones who aren't getting this deal are overpaying, largely the branded stations.

The branded market, which is 80 percent of the market, this is a way that refiners have been able, contractually, to keep retail prices artificially high. So, we're talking about a pricing strategy to supplement a low supply strategy. Refiners have the power to set the dealer tank wagon price, as well as the price sold, I guess, through the branded rack. Most of this is dealer tank wagon. That's directly to the refinery.

And at 80 percent of the stations these dealer tank wagon prices are 30 cents higher than the unbranded

prices. And if you look at those special deals that we've just shown you, in many cases that spread can go to 50 cents or, in some cases it can go to 50 cents.

So, by setting a higher price at these branded stations, which refiners have control over of the price there, the street price remains artificially high.

Now, this is something that we've thought about before, but really makes a lot of sense in conjunction with this pricing strategy of dealer tank wagons. How do each of the refiners know what the other refiner is charging through the dealer tank wagon? We don't know what the dealer tank wagon price is. The public doesn't. OPIS doesn't.

The Lundberg Survey publishes, for a very steep cost, all dealer tank wagon prices, as in almost every street corner in the State of California.

So, four refiners control 78 percent of the market. Those refiners and the rest in the market know what their competitors are charging by subscribing to a newsletter that CEC doesn't get because it can't afford it, that publishes on every street corner what a branded station, what every branded station charges.

And instead of picking up a phone call to their competitor, what do they do? When they set the price of their dealer tank wagon prices, they know exactly what

the price is across the street.

That is collusion. Last time you asked me whether there was any evidence of collusion. And I can tell you haven't looked into this. There is. Sharing pricing information for 80 percent of the market, among four refiners that control 78 percent, and the rest of them, that is a way to keep the price artificially high. That is a way to make the world-record profits that they're making.

I mean, we saw gold record profits this year. But recently, in this third quarter, they're platinum profits and it's all based on these pricing strategies.

PMAC CHAIR BORENSTEIN: Jamie, can I ask you, so Lundberg, you know about this Lundberg DTW price sheet.

MR. COURT: We know about both the back door trades and the Lundberg.

PMAC CHAIR BORENSTEIN: Yeah, but I'm not asking about that, though. I'm asking about the DTW price sheet. How did you find out about it?

MR. COURT: From people in this market, whistleblowers, traders, and others who are very upset that not everybody in the market's getting the fair deal.

PMAC CHAIR BORENSTEIN: Yeah.

MR. COURT: That some station owners are sitting

there and saying, wait a second, they don't know about the special deal to the unbranded stations --

PMAC CHAIR BORENSTEIN: No, no, I'm asking about this DTW pricing.

MR. COURT: That's how I know, because of people who -- okay, let me tell you how the Lundberg works. If you're a gas station owner and you report your DTW price to Lundberg, you get a free subscription to Lundberg. That is how Lundberg has collected those prices.

PMAC CHAIR BORENSTEIN: But wait, every gas station is getting this --

MR. COURT: Branded, branded, branded station that participates in the Lundberg Survey gets a --

PMAC CHAIR BORENSTEIN: Wait, let me finish. Every branded gas station is getting this DTW price sheet?

MR. COURT: Yes.

PMAC CHAIR BORENSTEIN: So, every branded --

MR. COURT: Every branded gas station that participates with providing pricing data to the Lundberg Survey, as a -- as part of that, gets back the sheet that shows the pricing data on the Lundberg Survey.

PMAC CHAIR BORENSTEIN: And Lundberg puts out many products, that's why I'm asking you, specifically. They get the product that has this every-street-corner-

in-California DTW price?

MR. COURT: The gas stations who are branded, who participate in reporting, because the refiners aren't reporting it, the gas stations are reporting.

PMAC CHAIR BORENSTEIN: Yeah.

MR. COURT: As part of that service of reporting they get back the sheet. And the oil refiners, of course, can buy, or others could buy, for a price, that product.

PMAC CHAIR BORENSTEIN: Did you ask Lundberg about this? Like how much does it cost?

MR. COURT: We understand it costs $30,000. I haven't asked Lundberg about it.

PMAC CHAIR BORENSTEIN: $30,000 a year or --

MR. COURT: As a subscription, yeah.

PMAC CHAIR BORENSTEIN: A month?

MR. COURT: A year.

PMAC CHAIR BORENSTEIN: A year, okay.

MR. COURT: If you're not a dealer -- you get it for free, as a gas station owner. If the CEC tried to purchase it --

PMAC CHAIR BORENSTEIN: They would have to pay $30,000 a year.

MR. COURT: -- they'd have to pay about $30,000 a year is what we understand, yes.

PMAC CHAIR BORENSTEIN: But that's many commas to the right of the numbers you were showing about the cost of gasoline.

MR. COURT: Yes.

PMAC CHAIR BORENSTEIN: Okay.

MR. COURT: And I would urge that -- one of the things I would urge is that the State monitor that and tape it down, even if it is $30,000.

PMAC MEMBER SWEENEY: Jamie, can we follow up on that? Do you have any idea about how many are reported, which is the question of how many entities are getting this. Which sounds like if this goes free to each gas station that reports, and most are reporting, this is a broadly distributed --

MR. COURT: As I understand it, that's true. I mean, we've heard that through station owners and traders. I can't tell you that it's every branded gas station in California. But I can tell you, in Southern California and other places it's widespread. And I think that is an area of investigation for this -- for this --

PMAC MEMBER SWEENEY: So, it's widespread information, really. It's not -- you know, we can't get it easily unless we happen to know somebody who's getting the --

MR. COURT: Well, no, no, it's widespread -- let me be clear, it's information that the oil refiners can have access to and their branded stations can have access to. It's not information that unbranded stations have access to.

And it's just like the branded stations don't have access to that information sheet that I shared with you, about the unbranded deals and that part of the market.

So, what the refiners appear to have done with these dark deals is basically create a situation where, what the spot market price is, is not the true price or the cheapest price that gasoline is being sold for. It's being skewed because a significant part of the deals aren't happening at the rack. They're happening on the unbranded market through these dark deals.

And similarly, the DTW, which should reflect the branded rack price, I mean, is obviously inflated. But if you take into account what the real price in the unbranded market is, that DTW price, or the unbranded rack price is actually much more inflated than one would gather.

PMAC MEMBER HACKETT: Mr. Court, this is Dave Hackett. Do you have any information or do you know if this pricing data is volume weighted? And what that

means is are the -- because Costco sells gas, cheap gas, and they have their own volume at their stations. Is that reflected in the overall pricing?

MR. COURT: I'm sorry, are you talking about -- are we talking about the Lundberg Survey? What the Lundberg Survey is reporting is --

PMAC MEMBER HACKETT: No, I hear you complaining that unbranded stations get cheaper gas than branded stations. But I'm also wondering, in your calculation of $8 billion, if that calculation reflects the fact that lower pricers, high volume retailers sell more gas than traditional gas stations?

MR. COURT: I'm sorry, are you talking about in terms of the -- in terms of the $9 billion number.

PMAC CHAIR BORENSTEIN: I think the $9 billion is sort of off.

MR. COURT: It's a perspective of --

PMAC CHAIR BORENSTEIN: I think the question is, is this a volume discount, right?

PMAC MEMBER HACKETT: Yes, do the volume discounts show up in the average numbers?

MR. COURT: Well, the average numbers are just the numbers reported -- reported, you know, through the Gas Buddy versus the average national one. So, it's the Gas Buddy number. And what we did was take into account

relative consumption. And you look at relative consumption in California versus America, and you do the math, and you take it from the Franchise Tax Board, in the case of California, and then you -- by doing the math, you figure out based on the gallons bought, and how much the cost is, this is the ballpark of what we're talking.

PMAC MEMBER MYERS JAFFE: So, are you saying --

PMAC MEMBER HACKETT: So, you assume the retail distribution through outlets in California is similar to the U.S.

MR. COURT: We were just taking, yeah, whatever Triple A uses, which is what Gordon uses, we use.

PMAC MEMBER HACKETT: Okay, thanks.

PMAC MEMBER MYERS JAFFE: So, is Costco -- so, I'm trying to understand you. Are you saying that Costco or big vendors are getting this lower price because they --

MR. COURT: Well, they clearly are getting the lower price.

PMAC MEMBER MYERS JAFFE: Right, which they pass on to consumers. But people who are having an individual station are the ones who are disadvantaged? I'm trying to understand who's disadvantaged.

MR. COURT: Well, the disadvantage is to the

consumer. Because what's happening is if 80 percent of the market is a branded station, and refiners, because they're setting the price that station pays, are able to raise it 30 cents to 50 cents over what's being charged at a Costco or an unbranded station, then the street price is artificially inflated for 80 percent of the customers.

And even the unbranded market, by the way, doesn't lower -- the unbranded retailers are doing very well. Costco is still doing very well, not as well as the rest of the unbranded market.

But I do think that the branded dealers are disadvantaged, if you're looking within the market, because they don't have access to the lowest price information. If they did, they might say, well, why am I paying this, when this sector is paying this?

PMAC MEMBER MYERS JAFFE: So, in economics we call that price discrimination, you know. So, you see that there's some market where someone will pay a higher amount for a pair of shoes, so you take your excess shows, so as not to put that in the market, and you sell those shoes to Bolivia, and then that way you keep the New York City market for shoes up. That's like a basic concept.

So, just to make sure I'm understanding what

you're saying, you're saying that the branded refiners, knowing if they put all their product at whatever the market would be or into the --

MR. COURT: Well, it's the same refiners, they're just selling branded and unbranded. Except for Chevron, which doesn't sell to the unbranded market.

So, if you're Valero, Tesoro or --

PMAC MEMBER MYERS JAFFE: But you're saying that they're holding some product at a lower price, into a certain market to hold up the price of the branded market.

MR. COURT: That's right, which dominates --

PMAC MEMBER MYERS JAFFE: It's a price --

MR. COURT: -- which affects the price consumers pay because it's a big part of the market. And they're dumping the cheaper fuel to the unbranded sector, yes. And it's the same refiners, it's Valero, Tesoro, ExxonMobil doing it.

So, what would you say if they said to you, well, A, we're not really doing that. It's just we can offload more product to Costco because they sell more. I mean, what would you say to that?

MR. COURT: Well, look, I would say that there is a Federal antitrust law that says that if you are a buyer, you have a right to get the same product at

relatively the same cost, unless there's a reason to cause these differences. This is the same product, except for maybe an injection at the terminal to make it a branded product. And some sort of --

PMAC CHAIR BORENSTEIN: That's not my understanding. I assume you're quoting the Robinson-Patman Act and that's not at all my understanding of that.

MR. COURT: Well, I'm not a lawyer. But look, I think the point is if you're asking why California gas prices are 75 cents above today America's gas -- or the L.A. gas price is above America's, and you can only account for 10 cents in Cap and Trade, and you're going to give then 10 cents in taxation, you're going to give them 10 cents in environmental costs for a refinery turnaround, which I don't buy, where's that extra 45 cents going?

It's because the oil refiners, in addition to, at times, keeping supply limited, also have a pricing strategy to back that up when supply is an ample quantity, to make sure the price stays artificially high until the next supply storage.

That's what we're trying to put on the table. This is an anti-competitive pricing strategy that uses the leverage these companies have over the market to

charge artificially high prices to the dealers, whose prices they control through the dealer tank wagon --

PMAC CHAIR BORENSTEIN: Okay -- oh, go ahead.

PMAC MEMBER FOOTE: Just one quick question, it's Kathleen. Have you been able to get any information to compare the back door sales in 2015 with those in, you know, 2013, 2014?

MR. COURT: The information we have, from a very small number of people, is that there were no back door dark trades prior to May of 2015. This is a new tactic.

And what it points out is that refiners will always find a new tactic because of their market power. Which brings me to my solution, transparency, which I really hope will be part of the recommendations discussion.

If you have an accounting for every deal over 2,500 barrels, you can eliminate dark market trading deals, and know what gasoline is really being sold for on this market.

If you have all dealer tank wagon prices publicly disclosed, as they are disclosed to the branded industry in the Lundberg Survey, not only will it be much easier for you all and everybody else who's looking to figure out what's going on, it will be easier for people who want to be competitive in this market to

understand and figure out how to be competitive.

All market players having access to the same information makes sure the market will be protected from being gamed.

In addition to that, we've talked about the other type of information we really want and I don't want to go over it again. But I do think one thing that's important, that came out today, is this question of ExxonMobil. ExxonMobil never publicly said, as far as I can say, because we looked for the statement, that they would be back online or offline. They say it through market surrogates. They say it through Bloomberg. They say it through an OPIS reporter. They never swear under penalty of perjury anything. They never even made a statement that they can be sued on. They don't talk publicly about when they're coming back online. Everybody else talks about them.

It's a rumor mill. And that rumor mill and innuendo is exactly why we didn't have the information to allow the importers, necessarily, to bring the product in. That -- this is an extension of the problem of this entire market is a black box, a dark hole. And by opening up information, we can change that.

Here's some other areas of concern I just want to put under your plate, and just until we get to the

panel discussion. But we have seen through the information we have, because we now have a Bloomberg terminal to look, that we've seen CARB fuel being dumped in Arizona, being traded in Arizona.

PMAC CHAIR BORENSTEIN: Really?

MR. COURT: Yeah.

PMAC CHAIR BORENSTEIN: There's real evidence that it is CARB gas?

MR. COURT: I'll share with you -- I'll share with you the screen shot.

PMAC CHAIR BORENSTEIN: Yes, we'd like to see that.

MR. COURT: We have evidence that CARB -- well, you have evidence that CARB components or gasoline have been exported and never stopped and unloaded. As we talked about at the last meeting, there's other evidence.

We talked a little about this, you looking into refiners creating barriers to import, in terms of how that market works. And there's some information that we received about other spot market manipulations, or call them manipulations or not. But you will go back to a slide we had, more recently, where you saw a big price spike in the spot market. It was on a previous presenter's slide around July 6th and around September

8th. So, July 4th weekend and Memorial Day weekend. And on those two days and this is, again, information we have from the market, on July 6th, apparently Chevron and Tesoro bought almost the entire spot market for gasoline. Now, maybe it was because they thought they were running short after the holiday weekend. But the result was a 60 cent pop overnight in the spot market for gasoline.

And on September 8th the same thing happened, it was Chevron who made that purchase.

But the point is those types of purchases, which aren't always as transparent as they should be, in terms of who are making that purchase, unless you're a trader, that can affect the spot market in a day. That can affect the type of volatility that we are seeing in the L.A. Harbor and elsewhere.

The reason we're seeing this much volatility in the market, and we've asked many people about it, particularly in the L.A. Harbor, is because there are so many different prices being paid, either in the dark market from different people, that the volatility is all over the place.

And if we had more information about this market, we'd be able to pinpoint more clearly what the real causes of these big differentials we have are.

So, I just urge you, as you go into the panel and elsewhere to --

PMAC MEMBER SWEENEY: Before you go away from that, before you -- you may have said this before, but I just don't remember, what barriers have been --

MR. COURT: To import?

PMAC MEMBER SWEENEY: That the refineries have created?

MR. COURT: Well, first of all, I mean I'm not an expert, but what I have understood from people in the market is if you're going to bring -- if you're going to bring some import in, you've got to go through a terminal that, you know, is controlled by the refiners. I think, except in one case.

So, if you're bringing a shipment in from someplace else, the refineries are probably going to be the buyer for that. If they're not the buyer, they're likely to control the terminal and the access point by which that import's coming in.

PMAC MEMBER SWEENEY: Okay, that's the whole of what you're aware of on that point?

MR. COURT: Well, if I was aware of more, I would explore it more.

PMAC MEMBER SWEENEY: Yeah, that's somewhat inconsistent from what we heard last meeting, by people

about what --

MR. COURT: Well, in terms of barriers to import, I think, and shipping as a whole, I think, hopefully, we'll get an invitation to come back to a future meeting because we have some ideas about looking at shipping patterns that we'd like to present.

But today, what I really wanted to put on the table is this idea, that we haven't really discussed in depth, which is there is a pricing strategy, a delivered pricing strategy that I think rises to the level of an anti-trust investigation based on the times when there are -- where low supplies should be dictating a high price, that high price is maintained through these pricing tactics, which I believe are anti-competitive.

And, in fact, I think the oil refineries must be somewhat concerned about it, as well, because I notice sitting in the room with us, today, is Attorney General Bill Lockyer, who's working with the oil refiners on anti-trust.

Now, I think the oil refiners must have concerns that what they're doing rises to the level of some type of prosecution, or they wouldn't have hired him.

I don't believe that when any market that's this consolidated, has this type of information available only to those players in it who can set the price, and

not to the public, that that market can work fairly.

PMAC CHAIR BORENSTEIN: Jamie, can I have one quick question and then we do have to get to the panel discussion. The DTW price sheet thing, when did that -- is that a new activity in 2015, or were they giving out these --

MR. COURT: I honestly don't know when it began. I believe it predated 2015, but I don't think it's an historic -- it's a very long history of that. And we can find out more information and let you know.

PMAC CHAIR BORENSTEIN: That would be great to know. Okay, thank you very much.

We're going to move right along. I apologize for not giving anyone a break, but we're going to try to do a panel discussion and still take a break for lunch.

PMAC MEMBER SWEENEY: I have one question. Are we going to ever vote on the minutes? It should be a very quick vote.

PMAC CHAIR BORENSTEIN: Why don't we do that right after lunch. Would that be good?

PMAC MEMBER SWEENEY: I don't care when, I just think they should be.

PMAC CHAIR BORENSTEIN: As the Chair Emeritus, you have a better understanding of how this is supposed to work, than I do.

PMAC MEMBER SWEENEY: No, I just read the agenda in front of me.

PMAC CHAIR BORENSTEIN: Well, maybe that's all it takes.

Okay, why don't we have Jamie and Skip join us at the table and maybe they can sit around the corner there. And Lynn, you're still on?

MR. WESTFALL: I am here.

PMAC CHAIR BORENSTEIN: Okay, thank you.

You're going to probably want to sit where the microphones are.

MR. EGGERS: Please, everyone, remember you do need the little red ring around your microphone to make sure it's on.

PMAC CHAIR BORENSTEIN: Okay, the first thing I guess I would like to do is ask -- my guess is I know the answer. But Skip, do you work in the downstream retail end of this business at all, or is that sort of out of your purview?

MR. YORK: In the 20 years that I've been there, I've done some work along the entire valley chain. So, a little bit of time.

PMAC CHAIR BORENSTEIN: Okay. Lynn, you've done everything, right?

MR. WESTFALL: I don't know if I like the way

you said that but, yeah --

(Laughter)

MR. WESTFALL: -- I've worked at retail stations for a while, plus been involved in companies that had very large retail networks and did planning for them.

PMAC CHAIR BORENSTEIN: Okay, good. I have a bunch of questions, but I'm worried I'm going to just start rolling, so maybe I will let the other Committee Members, if they want to pursue, go first. But I'm happy to dive in, if you don't -- go ahead, Dave.

PMAC MEMBER HACKETT: Hey, Lynn, Dave Hackett. On your retail gasoline, PIA's retail gas pricing data, is that volume weighted and do you have any insight on the relative difference in retail outlet mix between the total U.S. and California?

MR. WESTFALL: No, unfortunately, our retail data is a statistical sampling of a number of stations, but it is not value weighted at all.

PMAC MEMBER HACKETT: Thanks.

PMAC CHAIR BORENSTEIN: Okay, let me start in with the upstream part of the business that I'm still trying to understand. It seems that there were -- we have a -- I'm sorry, it seems that we have a very high margin relative to the cost differential. And I'm trying to still understand right now. And I'm trying to

sort of put myself in the role of a refiner. And one of the things that's pretty clear is that one refinery, that's the Torrance Refinery, having a major outage was enough to cause a huge price spike in the market.

And it seems that that's telling us that a volume drop of somewhere between 50,000 and 100,000 barrels a day is enough to cause a major price spike.

That suggests quantity has a big impact on price. And when firms are making output decisions, it seems that that's something they would think about.

Skip, can -- how, in these models that they run, where is price and how do they account for that?

MR. YORK: Yeah, so I think Lynn may have a couple of comments on this, as well. But, you know, a typical way you optimize a refinery is you'll think of the suite or products that you make. And it could be gasoline by different grades, gasoline by different locations, and you'll put in what you believe the prices are going to be in the next 30 days, 60 days, 90 days.

And then, you'll optimize that refinery and have the linear optimization model come back and tell you if, you know, this is the type -- and what the optimization model will do is it will say this is the price and this is the volume that you have to make. Because, quite often, you put the volume in there and you'll say I have

to make at least this much jet fuel. I have to make at least this much CARB gasoline or this much air-zoning gasoline.

That the linear optimization model will then come back and tell you, it's really around what crudes you need, because you're also going to put in crude prices, as well. And this will tell you this is the best mix of crudes to process a refinery, with your specific set of units, in order to make that product mix, given what you told me your product prices were going to be.

PMAC CHAIR BORENSTEIN: So, but it seems that that's missing something, then, because the product price is a function of how much quantity you put into the market. And isn't that in the optimization, that if you flood a market, you're going to drive the price down.

MR. YORK: So there -- yes?

MR. WESTFALL: Only to the extent that they are really different markets. For instance, and refiners are guessing at this, from experience they may know that, you know, my retail chain sells this much, my unbranded sells this much. If I produce more than those two numbers, I'm going to have to export it and it's going to come in at a lower number. So, they make

different tiers of pricing for different segments of the market.

I don't know of anybody who knows, because you can't know, what the true short term elasticity of demand is.

PMAC CHAIR BORENSTEIN: Well, I understand you don't know it, but it's not zero and it's not infinite.

MR. WESTFALL: No, it's different for every refinery. For instance, you know, the formula is price on volume. As you lower the volume 10 percent, the price has to go up by 10 percent to break even on a revenue basis. But a 10 percent volume difference is different for every refinery.

For one refinery it could be 5,000 barrels is 10 percent. For one refinery it could be 50,000 barrels is 10 percent. You don't know how other refineries will react. If there's spare capacity and you take your production down, other refineries may have the capacity to make it up, there may be spare inventory that can make it up.

PMAC CHAIR BORENSTEIN: But --

MR. WESTFALL: So, again, the planning is done very much on an insular basis, on here's my system, here's what my system typically requires in different market structures, and that's what I'm going to base my

planning on.

PMAC CHAIR BORENSTEIN: So, I find this surprising because it seems like there's pretty clear evidence from the Exxon Torrance fire, from the Chevron disruption that when we lose quantity from the market, it drive price up. And when we put more quantity into a market, it drives the price down.

So, it seems that's something that if you're trying to maximize profits, which is the point of these simulation models, you would put it into the model. And I understand there are delicate anti-trust issues associated with that, although not if you're doing it unilaterally, although Jamie and I will disagree about the Robinson-Patman Act, which I have studied quite a bit.

But it seems that that is a factor. Now, it's an uncertain factor, but I'm sure it's not the only uncertain factor. In fact, the price you're putting in is a greatly uncertain factor, it's a wild guess about what that market's price is going to be.

So, it seems that taking into account some impact of your own behavior, if you're big enough, is something you would do.

And what I'm hearing is you, Lynn, are saying they just don't do that, is that right?

MR. WESTFALL: They don't do that because they don't know, yes. They don't know if --

PMAC CHAIR BORENSTEIN: But they don't know lots of things. I mean, they don't know what the price is going to be, but they still make an educated guess.

MR. WESTFALL: Yeah, in one set of circumstances a reduction of 50,000 barrels a day could cause a big price spike. In another set of circumstances it could go by unnoticed.

MR. COURT: Well, in California, this summer and spring, you're not arguing that anyone would not see a situation where, you know, scarcity would create a price spike? If you're taking for granted we're in this situation and there are refiners --

MR. WESTFALL: Oh, no, not at all. But the person who benefits from that is the person that doesn't lose the volume.

PMAC CHAIR BORENSTEIN: Well, that's true. I mean, that's clearly true. But if you are a big enough producer in the market and you take some of your production and for instance, if Jamie's information is right, ship CARB-spec gasoline to Arizona, that could potentially raise the price for the remaining volume that you sell.

I want to be clear, I am not suggesting an anti-

trust violation. Jamie, obviously, has different views on this. But I am concerned that the incentives of firms in this market may not be aligned with consumers, to the extent we would like.

And so, I'm trying to understand. It seems that, just on an optimization basis, one of the things you'd put in the optimization is how price responds to the quantity you put on the market. And I'm not understanding why it wouldn't.

MR. WESTFALL: Well, again, some of that response in individual markets is tiered, we call it tiered pricing. You know, branded versus unbranded, domestic versus export, that is done.

But as far as, for instance, the effect on the spot market of different production decisions, I'm not aware of -- in my experience, I'm not aware of any refiner that takes that into account, other than in a really, really specialized market, for instance like Hawaii --

PMAC MEMBER MYERS JAFFE: So, that's --

MR. WESTFALL: -- where you know the fixed and there's limited response because there's only one other refiner. And you know, if you produce that extra barrel, it's going to have to go to the Far East, which is going to be at a loss.

PMAC MEMBER MYERS JAFFE: So, I think Hawaii is a great example because, of course, Hawaii is an island. And in a way, California sort of functions almost like an island market.

But let me throw out, as an analogy, so the way Saudi Arabia prices its crude oil, historically, in the global market is they -- they sell oil to the United States at a discount and that holds up the premium they get in the market in China and Asia. And they -- it's been proven, I actually did an economics article in the energy journals that showed this, that they actually made more income that way, right, because they're keeping that marginal barrel from going to the premium market.

Right, so by analogy, you know, it might behoove a refiner to take a marginal barrel and move it to Arizona, or someplace else, or simply not produce it, right. And that way, they're holding up the premium market, which is the California market.

So, by analogy, what you're seeing, and that's price discrimination in the oil market happens, right. And in the old days, and I won't mention the name of the company, there was a company that operated on the West Coast, that did that very cleverly with their production from Alaska, right.

MR. WESTFALL: Yes, we won't mention that name.

PMAC MEMBER MYERS JAFFE: Right. So, my point is, you know, it's a practice in the industry. And I'm not saying it's what's happening here, but the point is it's not a practice that's never been done in the industry. And the principle, you would agree, would be true that you could figure out that if you moved some -- in a tight market, the price is set by the marginal barrel. If you take the marginal barrel out of the marketplace, that's not bringing in an import, but it's keeping something, or not putting it in inventory, or whether it's moving it to Arizona, that could happen, that effect of holding up your premium market where you make your refining market, or your gasoline retail profit.

MR. WESTFALL: It all depends on how the selling versus price equation works out. The volume has to be offset by a higher price.

PMAC CHAIR BORENSTEIN: Yeah.

MR. WESTFALL: So, you have to have some pretty good surety of how that volume -- of how that equation works out. And I don't know of anybody that has got a real good handle on it.

PMAC CHAIR BORENSTEIN: Okay. Actually, before I move to Jim, which I will in just a second, Skip, is

your understanding basically the same as Lynn's, that that's just not in these programming models?

MR. YORK: Yeah, I would think he -- I think he said something very critical that I think is important to keep in mind, is that you can do some things, if you're big enough. And, you know, a lot of these refiners don't see themselves as being big enough to do this.

PMAC CHAIR BORENSTEIN: Well --

MR. YORK: Because, eventually, there can be a response.

PMAC CHAIR BORENSTEIN: Okay.

MR. YORK: And so, what they're interested in is can I, you know, satisfy my market chain, can I satisfy my customer chain and around what crudes do I need? Because I want to get the cheapest crudes possible. I think, and I want to let Lynn comment, is that I think refiners think a lot more about how do I get my feedstock down a dollar a barrel, than what I do on the retail side.

PMAC MEMBER MYERS JAFFE: Well, but I'm going to do that anyway. I'm going to do that anyway. We're not arguing about -- they use the computer to pick the feedstock.

MR. YORK: No, but it goes to you asked what are

they thinking about?

PMAC MEMBER MYERS JAFFE: No, listen. Listen.

MR. YORK: And I'm saying they think more about the feedstock side of it.

PMAC MEMBER MYERS JAFFE: No, there's a guy in the planning department that's running the computer and he is choosing what crudes they're going to refine. But that is totally different than the guy at the trading department, at Valero, who is deciding where to sell and buy at the wholesale level. There's a whole, totally different department. They probably don't even know each other, they're in a different part of the building, that actually gets together and comes up with a trading strategy for wholesale product coming out of the system. And there's a guy who makes decisions, you know, at a corporate level about what their strategy is going to be for marketing.

So, you know, to say that there's a group of people, who are scientists, and professionals who work with the simulation and they do it this way, that's absolutely correct. That is absolutely what they do. But that is a totally different department than the people who both trade in gasoline and decide what to do in the wholesale market. It's a completely different department in the company.

MR. COURT: And I've been told by people, who have been in that situation of trading, that they do move fuel to other states if they think it's going to be a significant price increase.

PMAC CHAIR BORENSTEIN: Well, I just want to be clear on what you're saying. You're saying they move fuel to other states if they think there's going to --

MR. COURT: In the past. Not in this current --

PMAC CHAIR BORENSTEIN: Okay, but if they think they're going to get a significant price increase for the fuel they don't move for the --

MR. COURT: They move fuel to a market that's less strapped and dump it in order to jack up the price in California. And that's happened.

I'm not saying -- this information is not relevant to the recent price spike. But we have talked to people who worked in companies in the past, and that has been a modus operandi in the past.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER MYERS JAFFE: So, my analogy, if we all remember the Enron electricity scandal, it is, in effect, the same kind of maneuvering when people have market power that we saw, during that time, in that market.

MR. COURT: No, to say that an oil refiner and a

trader at a big company isn't going to consider, you know, an opportunity to make a big price on a scarce market, you know, is just not being honest about it.

But when you have a market as strapped as California was, you know, obviously, these decisions are so critical.

And I'll tell you that I think that this is why we really need some people, who are in those positions now, from the specific refiners, to come before either this committee or another one, with subpoena power, and answer some of the questions.

PMAC MEMBER MYERS JAFFE: Well, the thing that concerns me is if there was market power, and that's a big if, which is now what you're alleging, is that they coincidentally managed to goose the market up to exactly the number that WSPA released, as was going to be the way consumers were going to pay a premium if the carbon trade came in. So to me, that's weird that you had this thing happen in the market, that was a market related event, like traders realized they could make some money doing XYZ, and it happened to coagulate right on the number that WSPA announced in advance.

MR. COURT: I think that's right, it's a 75 -- in a memo in November you're talking about.

PMAC MEMBER MYERS JAFFE: Yeah.

MR. COURT: Yeah, and it corresponded.

PMAC CHAIR BORENSTEIN: Okay, Jim walked out. I assume he'll be back in just a minute. I was going to let him have the last word before lunch.

But I think the most efficient thing to do, Lynn, if we can beg your indulgence, I think what we're going to do is take lunch, and then come back at 12:45. Could you still join us, then?

MR. WESTFALL: Let's see, what's that, what time is that here, 12:00 --

PMAC CHAIR BORENSTEIN: 3:45, your time. In 45 minutes.

MR. WESTFALL: Well, that's 3:45?

PMAC CHAIR BORENSTEIN: Yeah. Although Jim is now back. Jim, do you want to do your questions before lunch, we --

PMAC MEMBER SWEENEY: Yeah, it's just a very simple question and it's going to be very --

PMAC CHAIR BORENSTEIN: Okay, then we'll do lunch.

PMAC MEMBER SWEENEY: -- very clear about, Skip, your phrasing. First, you know, we've all seen the type of earlier generations of these linear programming models, and they're very complicated. There's a lot of data in it, a lot of relations in it, a lot of

parameters that can be adjusted over time.

One of those -- so, first of all, given the complexity, it would be very easy to put in a relationship that says the price isn't just a number, but it's a function of your quantities. And you may not have certainty about it, but you could put that in. So, there's no difficulty of including those in.

Oil companies are really, really good about dealing with uncertainty. They tend to work on that level.

So, that's just a little background to ask the question, you said you haven't seen that these relationships, price as a function of quantity, as being in these models. Have you surveyed all of the -- a lot of the models that are used by the big oil companies and know it's not there or just you're not aware of it being there because you've not been able to see what was in the models?

MR. WESTFALL: Who are you asking that to? Are you asking that to --

PMAC MEMBER SWEENEY: I'm asking that to Skip, first, and then I'll ask that, also to Lynn.

MR. WESTFALL: Okay.

MR. YORK: Yeah, so okay, so what -- you know, in my experience, I've probably walked through 50 to 70

of these individual refining optimization models and I've never seen it in those 50 to 70 models. Again, I've never seen --

PMAC MEMBER SWEENEY: Okay, so you've looked and you haven't seen it. And, Skip, what would you say? I mean, Lynn. I'm sorry, I mean Lynn.

MR. WESTFALL: Haven't had that in their model.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER SWEENEY: Okay.

PMAC CHAIR BORENSTEIN: Okay, I think what we're going to do -- Jamie walked out, but I'm hoping he can be around after the break.

We're going to take a break until 12:45. We're going to eat a very quick lunch.

I am going to remind the Committee Members of the Bagley-Keene restrictions, as tempting as it will be to have a quick conversation about what we did this morning, it would be a violation of everything in sight to do that.

So, we will have no discussions offline about the material and we will get back here at 12:45, where we will resume. And Skip, you can join us, still. And Lynn, can you join us then?

MR. WESTFALL: I will plan on being here.

PMAC CHAIR BORENSTEIN: Great. And I'm assuming

Jamie will be back, so he is nodding so.

We'll see you at 12:45, thanks.

(Off the record at 12:06 p.m.)

(On the record at 12:56 p.m.)

PMAC CHAIR BORENSTEIN: Okay, we're back. Since we're still missing a couple of panel members, we're going to move on and Amy's going to do her presentation on the National Petroleum Council report on emergency preparedness. And then, we're going to come back and do the panel members. And Amy said this is quick, so we still will have time for more panel discussion. And we will then have public comment time, as well, before we adjourn.

So, Amy.

PMAC MEMBER FOOTE: Are we going to approve the minutes, first?

PMAC CHAIR BORENSTEIN: Oh, yes. So, how do we do this? Do I hear a motion to approve them?

PMAC MEMBER FOOTE: I'm make a --

PMAC MEMBER SWEENEY: I'll make a motion to approve them, I actually read them.

PMAC MEMBER FOOTE: I will second that motion.

PMAC MEMBER SWEENEY: Wait, I have to -- this is Jim Sweeney. I make a motion to approve them. I've actually read them and I think they're correct.

PMAC MEMBER FOOTE: Yeah, this is Kathleen, I'm seconding the motion.

PMAC CHAIR BORENSTEIN: Okay, all in favor of approving the minutes, raise your hand and say aye.

(Ayes)

PMAC CHAIR BORENSTEIN: All opposed? I don't know what I'm doing.

(Laughter)

PMAC CHAIR BORENSTEIN: Okay, the motion passed five to zero.

PMAC MEMBER SWEENEY: Yeah, passed them unanimously, I think.

PMAC CHAIR BORENSTEIN: Thank you.

PMAC MEMBER MYERS JAFFE: Okay, so I just wanted to share, to share with the Committee an exercise that the National Petroleum Council went through this past year, on emergency response.

And to clarify, you know, that exercise was really focused on natural disasters, so that would be fires in the State of California or, hopefully, not an earthquake or something of that magnitude, a hurricane.

But I think that some of the lessons, and recommendations, and structures that were discussed by the group that was -- the working group at the NPC and I was on even the subcommittee in this topic area. And it

involved some refiners from California, in the NPC study, and it connects to the CEC's Statement of Energy Assurance Office. So, I think it's of relevance, to a certain extent, only to be aware that there is a reporting structure, an official reporting structure between the CEC and the refining industry that is on the subject of emergency supply.

And while the NPC and its efforts were designed around emergency supply in a natural disaster, you know, one could imagine the same thing would apply in a terrorist attack. And one could imagine that a very unusual situation of a very big refinery fire, or multiple refinery catastrophes in a series and in a period of time might benefit from thinking about whether you would want to kick into the energy assurance planning process in the State.

So, I just wanted to sort of introduce this material for the Committee's consideration. One of the things that was discussed inside the NPC's deliberations was the fact that locational swaps, or time swaps, or the loans is a standard practice in the refinery industry when there is sort of an unexpected outage. And that there can be a problem sometimes inside the industry if the cost of bringing the next nearest do-it-alone, or the supply dealing with the next nearest

provider happens to be a great distance, then the cost for, say, Exxon for Torrance to bring in new, replacement material could be quite steep if the next available supply is farther away.

In a hurricane situation, you could imagine it could be the whole region and you're having to go, you know, to a different part of the country to get the supply, so there it's more relevant.

But one of the things that was discussed, as part of the CEC process, was not only having the group inside an energy company that handles business continuity planning be well-apprised of the coordination for the State assurance plans and do drills, but also to make sure inside the companies there's a recommendation of those people who are serving, who are the business continuity planning folks from the big refining companies, that there be a direct line between that group and the CEO or the CEC. So that if a decision had to be made to take a commercial decision that was "not fully commercial", in other words if the company felt, in an emergency situation, that it needed to override what would normally be a procedure for what the margin would be to bring in product from another location, that that would require you to be able to communicate with the head of the company. And that should be part of the

process that would be put in place with these energy assurance plans.

And so I just, you know, sort of wanted to note some of the things the NPC studied and some of it's consistent with what WSPA mentioned, that sometimes we have a regulatory barrier to getting adequate supply. In those cases, at the national level, you know, recommendations to be able to simplify what we call the waiver process, right.

So, at the national level it would be things like people can get a waiver from the Jones Act, right. That's the use of Jones Act vessels on the Federal level during Hurricane Rita and Katrina. The President actually issued waivers against the, you know, CARBOB. Right, so they just said, okay, that's it. For the time being, for a couple of weeks we're going to suspend the requirement to meet the Clean Air Quality goals for gasoline.

So, there have been things that have been done at the Federal level. And I just wanted to sort of introduce, as a flying question, and perhaps we could have someone from the California Energy Assurance team present to us at the next meeting. You know, have we considered these temporary regulatory relief mechanisms when we first are in a crisis, when we're first having a

big dislocation in the State? Is that a possibility?

And then, you know, when was the last time we did a drill on the business continuity plans and their intersection with the State assurance plan?

And, you know, are we using the definition? I don't know, maybe we're using too tight a definition. And given California's unique situations between what would be considered a "actual disaster" and so you would kick off this State assurance process with the business community staff with the refineries and when you wouldn't. You know, does a fire -- did the oil workers' strike, would that have counted as something you might have wanted to kick in the business continuity planning, and coordinated with the State assurance planning?

So, I think just to review that process for us, as a Committee, I thought might be helpful.

And just, you know, I brought a few slides to kind of have you see like what NPC recommended as sort of the flow of information and coordination, if it had been in a national setting.

But you can see, from that national setting, part of the chart that is the State part, which is the bottom of the diagram. You know, it seems actually pretty possible to California could even tap the national system if it's felt that that it's going to be

a problem of impact. I think it would be possible to tape the wider system, but for sure we could tap our own State piece of the system.

And there was a lot of talk about understanding interdependencies between supply chain parts of the system, understanding the relationship between, you know, the refiners, and the jobbers, and the rack, and electricity supplies. And to enhance these sort of drills and exercise on these processes that we have this structure put in place to deal, in a sort of way, really, with the same kind of supply disruptions that the State may have experienced this time. Not from natural disaster accidents, but from a -- in a, you know, set of perfect storm situation where we had so much manufacturing knocked out in California.

And then, again, just to have everybody see this last slide, it sort of at least lays out, you know, for an incident command system. You know, how does this play out inside the structure and who's responsible for what, and how does that work through?

So, again, understanding in the State assurance plan, and then inside the representative for business contingency planning, of each of the refiners, you know, understanding who are the people whose job it is to work with the State in identifying the steps that are taken

to alleviate shortages. We have a structure, I guess is my point. There's a structure to deal with this.

And if we're not using that structure when -- we're obviously having dislocation. I think we want to maybe do sort of a backtrack and think about, you know, was this structure used at all in 2015?

If it wasn't, it's because we have certain rules that have been established. And are those rules sufficient or should we widen those rules? That was sort of what I wanted to introduce as a concept, given my learning from serving on the NPC, at the national level.

PMAC CHAIR BORENSTEIN: Thank you, Amy. I'm going to suggest, given the topic today, and given I think this is a bigger issue, that we, at the next meeting, put on an agenda a briefing.

Gordon, I believe, is actually involved in the emergency planning. A briefing on that topic and basically engaging the questions that Amy has raised about how does this issue interface with sort of internal outage problems. In some ways I guess they're not that different, whether a tornado sets down on top of a refinery or the refinery, something happens inside and the refinery has a disruption. But how they are viewed and whether the planning for that spills over in

useful ways.

So, I'm hoping our next meeting will be early in the next year, though not until after Jim gets back from Australia. And we will put that on the agenda and have a sort of more detailed conversation. But thank you for introducing that.

Okay, Lynn, are you on the WebEx? Should I repeat that?

MR. EGGERS: Yeah.

PMAC CHAIR BORENSTEIN: Lynn, are you on the WebEx?

MR. WESTFALL: Yes, I am.

PMAC CHAIR BORENSTEIN: Great, thank you for coming back.

I think our Committee still has questions. I have questions, but which I'm happy to dive into. Kathleen, you're looking like you have questions.

PMAC MEMBER FOOTE: Yeah.

PMAC CHAIR BORENSTEIN: Go ahead.

PMAC MEMBER FOOTE: I do have one question. Just before we broke, a question had been raised regarding the linear programming model and whether or not -- and whether or not quantity is a part of the equation there.

And I guess the answer was -- I guess the answer

was no, at least not at the present time. And I guess I'd like to follow that on by asking if quantity could be -- if, for example, it were possible to add quantity in there, is there sufficiently granular information on quantity in connection with this model for it to be useful for people wanting to maximize their profits?

MR. WESTFALL: I'm sorry, you're breaking up. I can't hear you very well.

PMAC CHAIR BORENSTEIN: Get closer.

PMAC MEMBER FOOTE: Okay.

PMAC CHAIR BORENSTEIN: Yeah.

PMAC MEMBER FOOTE: If quantity is one of the factors that could be introduced to the linear programming model, is there information sort of sufficiently granular to be useful with regard to maximizing profits on that?

MR. WESTFALL: No. Because, again, the unknown is short-term pricing elasticity. To know that, you'd have to know where the incremental supply is coming from.

If it's going to come from another producer, then there may be no price effect. If it's going to have to be imported from Finland, there could be one price effect. If it's an import from Singapore, there would be another one.

So, without knowing the potential source of resupply, which ultimately sets the price, you don't have the data to put it in. You're just -- you're still encumbering.

PMAC MEMBER FOOTE: Okay. And then one more question on the model. To what extent is it susceptible of coordination, you know, from one --

MR. WESTFALL: It's probably the most company confidential information the company has.

PMAC MEMBER FOOTE: Okay.

MR. WESTFALL: It is literally a model of their refinery and what it can and cannot do, and all of its cost structure. So, I don't know of anything that's considered more confidential than that.

PMAC MEMBER FOOTE: Thank you.

PMAC CHAIR BORENSTEIN: Lynn, I'm going to press you further on this because, frankly, it's just shocking to me that firms wouldn't consider this.

But if you're in a situation, like California's been in for the last ten months, and you know that the market is constrained, and there are very high margins, isn't it pretty clear that there isn't an easy source of fill-in supply if I, as a refinery, were to ship some CARB gasoline to Arizona?

MR. WESTFALL: It depends on the amount. There

could be some potential for increased supplies that come in from El Paso, into Phoenix, which would back up a little bit of gasoline into California.

There could be some that comes down from Washington State that fills in some of the gap.

Then you're looking at the world, which refiner do you want to assume will fill in the next gap? The one in India? The one in Saudi Arabia? The one in Finland?

PMAC CHAIR BORENSTEIN: But you're already constrained and you have a very high margin, it seems pretty clear that it's not one that can easily substitute in because you're already pushing up against some constraint. Or, am I missing something?

MR. WESTFALL: The ultimate constraint is the cost of resupply. In theory, it can't go over that or else supply would come flooding in at that price. Now, that's short for fluctuation because, as you know, the distance to get that done. But there are enough traders in this world that will take advantage of any arbitrage they can.

PMAC MEMBER MYERS JAFFE: But there is going to be a time lag. You can be assured of for a certain of time, depending on how much alternative supply is needed and how large the supply hole is, do we -- does somebody

maybe -- maybe that's Skip would know, what's the sale time from India to the West Coast?

MR. WESTFALL: The sale time for India to the West Cost, I'm going to guess is going to be three weeks.

MR. YORK: Yeah, I think that's about right.

PMAC CHAIR BORENSTEIN: But it's not just the sale time.

MR. WESTFALL: That's also you have to add into the time frame the fact that they don't have CARB gasoline just sitting around.

PMAC CHAIR BORENSTEIN: Right.

PMAC MEMBER MYERS JAFFE: So, my point is, and what I would say is the traders have models. I mean, I've seen Boston Consulting Group has a model that shows this, where the next nearest destination is and the destination after that. And, you know, we can stack the deck for when -- where the material might come from, using a simulation that all the companies have.

So, my point being if you could assume that it's going to take five weeks, I mean five weeks is a long time to make it worth your while to have a price level that could be sustained for that period of time. Or, you think the market would correct because people would know there's a cargo coming in five weeks. How do you

think that would operate at the market?

MR. WESTFALL: Well, certainly, a lot of today's market is based on future expectations. There's no doubt about that.

But again, you could also have a response, which I think California did, by other refiners increasing their runs, if they have spare capacity. Which, in the short term, there's almost always some spare capacity in a refinery. It can't be sustained for a long time, but in the short term there can be some spare capacity. In which case, you've shot yourself in the foot.

And I have to know, again, not only that there will be a price response, but it will be sufficient to give me the same or more revenue at a lower volume.

PMAC MEMBER FOOTE: Well, I'd actually like to follow up a little bit on that, on the run issue. The last, just by way of background, apparently, and over the last couple of years there is more capacity, unused capacity in the refineries in California than there used to be.

And quite significantly, this has recently been viewed by the Federal Trade Commission as a potential source of competition that would help mitigate any kinds of tendency for exercise of market power, now that there are fewer refiners in the State.

And I am wondering if Gordon, or Lynn, or anyone here, actually, has some perspectives on whether that actually worked in the -- in the last number of months that we're discussing?

MR. WESTFALL: I'm sorry, what is the question, again?

PMAC MEMBER FOOTE: Did the -- did the existence of some unused capacity in the refineries that were actually operating, actually serve to constrain price increases by -- essentially, by ramping up production rapidly to meet their relief quantity because of the outage?

MR. WESTFALL: I think Gordon probably has the wrong data there.

MR. SCHREMP: Yeah, this is Gordon Schremp with the Energy Commission staff. I'm going to go through each refinery and explain what they produced. Not really.

(Laughter)

MR. WESTFALL: No.

MR. SCHREMP: So, to Kathleen's question, if you look at what happened in California, basically gasoline demand peaked and then you get the recession, and so there was a multi-year decline of gasoline made in California.

Clearly, everything else being equal, you had additional capacity in the system to supply, and so that's a good question to look at.

Significant outages that occurred when we had, you know, lower demand, and seeing refiners operating when we have a significant outage, and I think that's a good point.

What's happened over the last couple of years, there's been a rebound in gasoline demand in California, along with economic recovery, lower unemployment rates. And so, even arguing from two, three years ago, there is less "spare capacity".

Now, is there on paper more capacity, buying capacity in California sitting there? Yes, you could say Avon's refinery in Bakersfield is an example. Can that be ramped up rather quickly? No way. That is a very long process to sort of bring that refinery back up and in operation.

So, there's kind of two different kinds of capacity, those facilities operating day to day, and what's the demand level, what amount of imports are coming into the marketplace.

And that's why in California, or the West Coast, we haven't seen gasoline imports of this level in seven years. Why, we haven't needed to. Even with the

outages in 2012.

And so, I think the capacity should be juxta positioned with what the demand is in each of those periods of time.

MR. WESTFALL: Let me confuse things even more. There's overall capacity and then there's capacity to make CARB gasoline, and they are not the same.

Most incremental capacity to make gasoline is conventional gasoline, not CARB. CARB, in order to make more CARB gasoline, basically, CARB gasoline contains the cleanest components of all the components a refinery makes.

So, if you want to make more CARB than whatever your baseline is, you have to run some clean components from conventional gasoline, and what you're left with really isn't gasoline anymore. So, that requires a certain price differential to go beyond where it's most economical to make CARB gasoline.

So, yes, there's a difference between capacity and the capacity to make CARB gasoline. And the capacity to make CARB gasoline is not free.

MR. SCHREMP: And I think -- this is Gordon, again. Just one more point on the capacity issue, it's also important for us to think about the system. I think this has been already raised, about pipeline

exports into Arizona. The Arizona market is supplied, as you point out, Lynn, from both the east and Southern California. Northern Nevada provides supply from refineries in the Bay Area. And Las Vegas is also, now, getting supplies from refineries in Utah.

So, the supply ability and flexibility into Southern Nevada and Arizona has changed. And in the data that we see, in pipeline deliveries into Arizona, we have seen what you said, Lynn, that there's been a drop off of what's coming from California going there, and more coming from Texas. I guess, obviously, one can conclude because that's, you know, a cheaper cost to supply that market, in holistic terms.

So, less was coming from California and that means that, yeah, we could dial back when we have a refinery problem, but what's the capacity coming from the east?

So, I think that's another important dynamic is to look at how the pipeline supply capabilities have shifted over the last five years. That's another important consideration when we do have significant unplanned outages in California.

PMAC MEMBER FOOTE: So, the existence, basically what you both seem to be saying is the existence of unused refinery capacity doesn't really serve to -- it

doesn't really act as a separate feature of competition or potential competition in the marketplace.

MR. WESTFALL: Well, I would say to a certain extent it does. My point is it's not free. You have to have increased prices in order to bring that extra gas on line, to sell it.

PMAC MEMBER HACKETT: And this is Dave Hackett. A couple of thoughts. And one is I'm not aware that there's any unused capacity. I'm pretty sure that all of the high value capacity in calculating operation, et cetera, is fully utilized. And so, we don't know what the definition of unused capacity is with this regard. That's number one.

And number two, Gordon, do you happen to have, readily available, the relative movements to Las Vegas and Phoenix? Movements from Phoenix and Vegas, '15 relevant to '14? Can you see if there's any change in those supply patterns?

MR. SCHREMP: This is Gordon with Energy Commission staff. I think what we can do at the next, if it's okay with Committee Members, is to also, you know, when we provide another update include that information to show how those pipeline volumes have shifted. And we can see if the Committee Members think there's any useful information there.

PMAC MEMBER HACKETT: Do you have a sense of what the --

MR. WESTFALL: I can tell you that through September of this year, shipments from the Gulf Coast pipeline, in the past five have gone up by about 10,000 barrels a day. And shipments from Salt Lake City have gone up about 3,000 barrels a day. And again, that's on the average, '14 over '15 -- '15 over '14.

PMAC CHAIR BORENSTEIN: Yeah.

MR. WESTFALL: So, about 12,000 barrels a day extra came in, and that's on average.

PMAC CHAIR BORENSTEIN: This is Severin. I actually looked at some of these data last night, and shipments from California to Arizona and Nevada have declined in '15 over '14, which isn't terribly surprising. But I don't remember how much.

Actually, let me ask a related question. So Jaime, in his presentation, said that they had information of CARB shipments going to Arizona. It was Arizona, right?

MR. WESTFALL: Yes.

MR. COURT: We saw CARB for sale on Arizona racks, and those were terminals, yes.

PMAC CHAIR BORENSTEIN: Okay. And so, if this actually turns out to be true that somebody is selling

CARB spec gasoline into Arizona, would there be an explanation, other than the one that I would lean towards immediately, which is an exercise in market power? Would there be an alternative explanation for selling CARB gasoline into Arizona?

MR. WESTFALL: Yes.

PMAC CHAIR BORENSTEIN: Gordon is nodding. Yes, Lynn?

MR. WESTFALL: Well, you have to realize that AZERBOB, which is the gasoline that's sold in Phoenix, is very close to CARB gasoline. I can see a situation where a refiner ran out of AZERBOB and rather than make up a whole batch of AZERBOB, and get it there in a week on a pipeline, just diverted some CARB gasoline in there. It may not be worth separate storage to make the two grades. And they're kind of, sort of -- you can always sell CARB because it's a little bit higher quality. So, it's not necessarily market power as much as it is not wanting to make a whole batch of AZERBOB, send it to a separate storage system and selling it, when you have some CARB readily available to sell.

PMAC CHAIR BORENSTEIN: So, just so I understand, AZERBOB is the Arizona spec gasoline, I assume, and a good name.

MR. WESTFALL: For Phoenix, only.

PMAC CHAIR BORENSTEIN: Oh, for Phoenix, only, okay. And so, that stuff is regularly shipped or California provides AZERBOB to Arizona on a regular basis?

MR. WESTFALL: Yes.

PMAC CHAIR BORENSTEIN: Okay. And it's nearly as clean as California gas?

MR. WESTFALL: Yes.

MR. COURT: It was on a rack, too, so how did it get on a rack, tagged as CARB 87, you know, yield on a rack. So does that mean you have a buyer for it or, you know, the market needs it and you put it on a rack? Or, it's not a dealer pipeline, is it?

MR. WESTFALL: I'm sorry, you're really breaking up.

MR. COURT: It was a rack price. So, in other words you're --

PMAC CHAIR BORENSTEIN: I think there's something wrong with that microphone. Why don't you turn that one off and --

MR. WESTFALL: Well, if it was a rack and then advertised as CARB, again, I can see the situation that you're trying to entice a California buyer. Let's say it was trucked into Phoenix and maybe there was a problem with the rack in Barstow or Colton, where it

would pay you to have the company to buy it in Phoenix and then truck it back. I don't know. I mean, I don't know what the facts are.

But there are situations that don't imply market collusion, merely supply --

PMAC CHAIR BORENSTEIN: And just to be clear, I did not say collusion.

MR. WESTFALL: No, no, no.

PMAC CHAIR BORENSTEIN: And there is an important anti-trust distinction here between market power and collusion so --

MR. WESTFALL: Right, I'll -- let me rephrase that. Then I can see situations where it's not an exercise of market power, it's simply a rational, economic decision based on an individual company's supply pattern.

PMAC MEMBER HACKETT: This is Dave Hackett. I think we heard Ken Morgan, the pipeline representative, at the last meeting say that the refiners have to certify that what they ship to Arizona is Arizona specification. Though, it's entirely possible that there's some overlap between California and Arizona. But what Kinder Morgan puts on the pipeline is AZERBOB.

PMAC CHAIR BORENSTEIN: So, what Kinder Morgan -- what's being shipped in is AZERBOB, it's

nearly as clean as California gasoline. If there is a big spread in a CARBOB -- if CARB gasoline is selling for a lot more than Arizona gasoline, then somebody is taking a real hit to ship it to Arizona. And why would they do that?

MR. SCHREMP: So, this is where we may --

MR. WESTFALL: Well, they may need supplies very quickly and the next pipeline patch they have is CARB. I don't know.

MR. SCHREMP: So, Lynn and Severin, this is Gordon from the Energy Commission. We get weekly data from Kinder Morgan on deliveries into Nevada, in Reno, Las Vegas, Phoenix, Tucson from the east. So, we see the shipment by type of product into each of t hose delivery points.

So, on occasion, we will see CARBOB delivered into Arizona because, in the Arizona fuel specification regulations you may use CARBOB for compliance in Maricopa County. So, that's a complying fuel. Or, you can meet the Arizona spec, as Dave mentioned, AZERBOB.

So, it's perfectly fine to do that. And as Lynn points out, there are circumstances where you have a tender obligation, you may not be able to meet it, and someone else says, I'll do that. And I can send CARBOB, it still meets the spec, right? Yeah. And so, we do

see some volume of CARBOB moving into Arizona. It's unusual, but it does happen.

And what Kinder Morgan does, as a practice, since we're using community storage tanks, each refiner's shipment goes into the same storage, sets of storage tanks, so they're all blended together.

So, you can send CARBOB. It will meet AZERBOB. They dump it in the AZERBOB tank and Kinder Morgan regrades that material. So, we see both --

PMAC MEMBER MYERS JAFFE: But why would you put a higher value material, when you can get a 75 cent premium to meet an obligation in a market that's going to be 50 or 75 cents lower? Why would you do that?

MR. SCHREMP: We don't see a 75 cent differential in any particular week between the markets. And so, these volumes are very small relative to the total amounts that are going to Arizona, that are AZERBOB.

So, as Lynn points out, it's probably something that the circumstances is like I have an obligation under my contract to meet, how can I best meet it if I can't actually send the product that I normally send? And so, that's likely what has happened.

And we also see this diesel fuel. CARB diesel fuel can be shipped and is shipped to Nevada and

Arizona, because it meets Federal low sulfur use regulations, and Kinder Morgan sticks it in to the community source tank and downgrades it.

PMAC CHAIR BORENSTEIN: So, this is just -- just so I understand, this is just the phoenix area of Arizona that this stuff is relevant to. The rest of Arizona is using conventional gasoline or are they --

MR. WESTFALL: Yes. Well, Arizona's got their own pressure specification, because of their ambient temperature. But basically, yes, it counts as conventional gasoline.

PMAC CHAIR BORENSTEIN: Okay, and so realistically, Phoenix is the only place that this explanation would apply to. If you're shipping CARB out of California, it might be a relevant explanation if you're shipping it to Phoenix. But if you're shipping it to Nevada, this would not be --

MR. WESTFALL: No. I mean, you can use CARB gasoline in Nevada. You might --

PMAC CHAIR BORENSTEIN: No, I'm sure you can, but why would you? Again, if there's a --

MR. WESTFALL: If there's a contractual obligation, you might be willing to take a short-term hit for a long-term marketing program. You don't want your stations running out and all you got to send is

CARB gasoline. Okay, a short-term loss maintains a long-term market position.

But again, we're speculating on what caused it, but there are other causes, let's say.

PMAC CHAIR BORENSTEIN: But there is a market out there, prices are getting quoted, somebody is willing to sell product that you could have bought locally, instead of shipping this much more valuable gasoline into Nevada.

I mean, you're talking in terms of quantity necessity but, at the same time the oil industry talks about the prices being determined competitively. And prices being determined competitively means somebody stands ready to sell at those prices.

So, you can't have a competitively determined price of $2.50, and at the same -- and say that's the market price. And at the same time, at least in something other than extremely unusual circumstances, have somebody shipping a $3.25 value gallon of gasoline into a market where the price is $2.50.

You know, it's just I understand the need to meet quantity obligations, but it seems that there is a local market where you can meet quantity obligation.

PMAC MEMBER MYERS JAFFE: Yeah, I don't see that happening. Because during Hurricane Rita and Katrina,

refining companies made the decision to leave consumers with no supply, whatsoever, but plastic bags over the pumps, rather than lose 50 cents moving the product in from Georgia. Right, so I just don't see that as a normal reaction in a regular market.

MR. YORK: Hang on, I'm going to take exception to that. With Hurricane Katrina, and with Ike, the reason why those stations were close down is because you didn't have power and you couldn't pump. You couldn't load the racks.

PMAC MEMBER MYERS JAFFE: No, no, no, listen, I live in Houston. And before the power went down and before the hurricane happened, and afterwards when the power came back up, the industry -- now, the industry does because it signed an accord and others intervened, the industry now keep repositioned material in other places. But at the time that was not the practice, and people didn't want to spend the money to bring it from far away. And we discussed that on the NPC and I know that that is true.

PMAC CHAIR BORENSTEIN: Okay, I think we're not going to sort this out today.

PMAC MEMBER SWEENEY: Okay. Yeah, let me just get one question in here. We heard that this is going on, we've observed that there was some. Do we have any

knowledge of the quantity? Because the explanations we hear, you can do lots -- there's a lot of things you can do in small quantities where you'll lose money on it.

In the public policy space, California does that all the time, you know, economically and unattractive things that you can do in a small amount. Businesses do that all the time, particularly when you have some discontinuity, some non-convexity. You have to do a complete fill up of something.

So, I guess, do we have any evidence that this is anything other than a very tiny amount being sold?

MR. SCHREMP: Committee Member Sweeney, this is Gordon Schremp with the Energy Commission. Yes, we can -- I don't want to give you an education of what that number is, but we can provide you a quantitative estimate -- not estimate, but give you an exact number at our next meeting. We'd be happy to do that to put the relative volume of California spec fuel, that was initially shipped out California to its destination markets, via pipeline, we can put that into relative terms to the total amount of gasoline sent to these other markets.

PMAC CHAIR BORENSTEIN: Yeah, that would be very useful.

PMAC MEMBER SWEENEY: Yeah, that would be

helpful.

PMAC CHAIR BORENSTEIN: And then we can have that discussion at the next meeting.

MR. SCHREMP: And one more point on -- I don't think it's been clearly stated here, you have to keep in mind that in California, only a couple of the refineries are producing, besides CARB gasoline, expert gasoline. As has been pointed out, separate tankage, you know, blend tanks for this. And so, there's only a handful doing this. And so, think about a situation where one of those facilities has a significant unplanned outage, they still have their contracts to deliver and they're calling another refinery. And what are they not doing, producing, keeping segregated an export gasoline.

So, why would they send a CARBOB? That would be an example of one reason. But keep in mind, only a few of the California refiners routinely produce, segregate and mix export gasoline for Arizona and Nevada.

PMAC CHAIR BORENSTEIN: But Gordon, if we have a market in Arizona for gasoline, there's a price at which you can buy more gasoline. And just because you have a contract to supply doesn't mean that you have to actually, physically supply. If your refinery goes down, there's a spot market that you can access. And what it's going to do is pull in more gasoline from

Texas. Which, and my understanding is, has plenty of capacity to ship more gasoline.

So, why would you ship CARB gasoline, this valuable -- and maybe we should just hold this off, because maybe this is just -- we need to know quantities before we can say anything more.

PMAC MEMBER SWEENEY: Yeah, and I agree.

PMAC CHAIR BORENSTEIN: That's a good point, Jim, and you're right.

PMAC MEMBER SWEENEY: Without knowing quantity information, really, it's so distortionary and --

MR. COURT: But along the same lines, there's a lot of shipping that's gone on of blending components out of the refineries in Northern California and moving around a few points.

Gordon, do you have an idea of what's being moved and how often from, let's say, you know, ships we would see coming out of Northern California, going down to Mexico? I mean, we can track shipments and we know the weights, but we don't know what's on them. Do you have an idea of what's moving around, what blending components and in what quantities?

MR. SCHREMP: This is Gordon with the Energy Commission. The foreign exports, gasoline from California, have 98 and a half percent of -- during 2015

have originated in Northern California, where we know Northern California's essentially long in gasoline. And that volume's been roughly, you know, 20,000 barrels a day on average for the entire year, relative to about a million barrels a day of local market.

So, we would say that's a rather small overall percentage of total gasoline output that's actually leaving by marine vessel to foreign destinations. So, it's pretty small.

MR. COURT: But you do get data on what every vessel is carrying or you just get data on what the overall volume is?

MR. SCHREMP: We do receive data from the companies on imports and exports, by individual company, and it is by individual marine vessel. So, yes, we do obtain that information on a monthly basis.

But we can also go look at the Department of Commerce foreign export data and see what gasoline is exported from Northern California, Southern California, the Pacific Northwest, and what destination country. So, we can actually -- that's almost like publicly available information and you can go in and see where the gasoline is going that's leaving the West Coast.

MR. COURT: Well, we know where it's going, but the question is what's on the ship? I mean, which

blending components is it? I mean that's the thing is we can track the ships and with Bloomberg we know how heavy they are. But we don't know what's on them. I'm asking whether you know what's on them?

MR. SCHREMP: Yes, we know what's on the marine vessels after the fact. It's a monthly report, so it's due to us 45 days after the close of the month and we do a quarterly reconciliation of that information, along with other data sources to triangulate what we think is the most accurate flow of imports and exports by --

MR. COURT: But the refineries tell you what's on the ship?

MR. SCHREMP: Yes, they do.

PMAC CHAIR BORENSTEIN: Okay, okay. So, it's 1:40, we've got to end at 2:30. Can I just see a show of hands of how many people would like to make public comments? You don't count, Jaime, you --

MR. COURT: I just want to make one clarification of a question earlier. We went back on the Lundberg Survey question --

PMAC CHAIR BORENSTEIN: Wait. No, but let me just get the public by a show of hands. One public comment. That's it.

PMAC MEMBER MYERS JAFFE: On the WebEx?

PMAC CHAIR BORENSTEIN: Okay, two. Okay, so we

have two public comments. Okay, that gives me an idea. Jamie?

MR. COURT: So, just a quick clarification. Lundberg has been collecting the data for gas stations for a long time. Apparently, the dealer stations get an analysis of what's in the data, but not the data, itself. But the data is available for purchase by refineries or others on the -- you know, on the every-corner basis. Is that your understanding?

PMAC CHAIR BORENSTEIN: So, do you know if the dealers, if an analysis means the prices, specific prices for my neighboring stations?

MR. COURT: I think it's an analysis for the prices. But I will get a copy of it and provide it to you anonymously, so you can see it.

PMAC CHAIR BORENSTEIN: Yeah, that would be very useful to see.

MR. COURT: Yeah.

PMAC CHAIR BORENSTEIN: Let me ask --

PMAC MEMBER FOOTE: Yeah, but the other question would be if the analysis is purely retrospective or if it attempts to be perspective?

MR. COURT: I don't know, but the troubling part is that the data, the macro data of the price on every corner is available by the people who can use it in a

way to know what their competitors are doing.

But I will get the analyses, as many as we can, and turn it over in a way that doesn't endanger any --

PMAC CHAIR BORENSTEIN: That would be great. I do have one more question for you, Jaime, partially just getting my back up for you accusing me of not being a lawyer.

MR. COURT: It was a joke. It's a joke.

(Laughter)

PMAC CHAIR BORENSTEIN: So, this idea of transparency and I guess this transitions into the policy discussion, troubles me a bit. I haven't taken an anti-trust law class for a long time, but my memory is there was a case that involved wood flooring. I don't remember the case, in which there was a group that circulated a price list.

And then I was the expert witness for the Department of Justice in the airline price fixing case, so I got to see this up a little close.

And transparency in those cases was not considered the solution, it was considered the problem. That even publicly, and the airlines' defense was we're publicly announcing these, they're on -- every travel agent can see these prices. But the accusation was they were using fixed prices.

So, I'm wondering why you think transparency is a solution, rather than actually less information being allowed to be shared, rather than more?

MR. COURT: Because there's no way we can stop the refiners from the information, they have it. They know the dealer tank wagon price for every branded gas station in the State. And then, they know exactly what their competitors are moving the price of fuel for. And they have deals with these super drivers to get rid of the rest of the fuel.

Why would the public, and other people in the market who have -- who can be a countervailing power, not have access to that same information?

I also think, based on what I see at the Bloomberg terminal, in terms of production utilization of these refiners, I mean the refiners have an unbelievable amount of information, about both their supply. But I particularly think the pricing aspect, if they've got that information, we're suffering as a result.

Even in the playing field, by getting it out to other players in the market via importers, so that when you know what the real destination cost is or the --

PMAC CHAIR BORENSTEIN: I'm going to have to cut you short because we're running -- but it's the premise

that I think I disagree with.

MR. COURT: Well, I think I would ask you, then, to take a look at what they know now.

PMAC CHAIR BORENSTEIN: No, the question is whether that's legal --

MR. COURT: And if they know it now, then why shouldn't the public know it?

PMAC CHAIR BORENSTEIN: -- because the airlines had a publishing company that was sued --

MR. COURT: Well, I think it is legal.

PMAC CHAIR BORENSTEIN: Well, the airlines, they're publishing company was sued by the U.S. Department of Justice for doing exactly this, for circulating prices in a way that coordinated prices among airlines.

MR. COURT: Well, then if --

PMAC CHAIR BORENSTEIN: And so, if Lundberg is doing something that circulates prices in a way, and I will yield to Kathleen on the anti-trust interpretation, but my analogy from the airline industry is the U.S. Department of Justice anti-trust lawyers thought that was an anti-trust violation.

MR. COURT: And maybe we --

PMAC CHAIR BORENSTEIN: And when I'm saying something's an anti-trust violation and you are not, you

should --

MR. COURT: Well, I'm saying I don't know if it is or isn't. I'm saying no one's prosecuted them for that, yet. Maybe after today they will. Maybe Kathleen will make a decision.

PMAC CHAIR BORENSTEIN: Okay, okay.

MR. COURT: But here's my point that it's a common industry practice. I think it has been noted in some cases and I do think it's -- I do think it's an anti-trust problem, you're right. We have the same thing with insurance prices being circulated from the Insurance Services Office, and Prop. 103 banned the practice.

I don't know whether it's legal or not. I do know this, that the refiners have an unbelievable amount of information and the public deserves at least to know what they have and so does the market.

As long as we -- if you're going to ban dealer tank wagon prices from being shared, I might consider that. But in the world where it still exists, then we need to counter it.

PMAC CHAIR BORENSTEIN: Okay. Yeah, I'm not sure I see that as a solution, but if this really is a problem.

MR. COURT: Well, I can tell you this, from the

price point of view, the fundamental problem that we would all recognize could be solved on a common ground, and even the oil industry, is if the market knew what was really going on at Exxon, they would have compensated.

Now, refiners would have made a lot less money, consumers would have paid a lot less money, but there would be a lot more gas in the State of California.

The market didn't know, Exxon wasn't forthcoming. That type of information should be public record.

PMAC CHAIR BORENSTEIN: So, just to go down that road, because I've heard this argument before, what if Exxon didn't know? What if Exxon --

MR. COURT: Well, Exxon clearly knew that, at the very least, it had to go get a waiver to do the backup, by ESP. It didn't disclose that, it didn't disclose anything. They didn't have to say publicly, or exactly what they knew at the moment they knew it.

PMAC CHAIR BORENSTEIN: What if their disclosure turned out to be inaccurate, that they said we think this is going to take --

MR. COURT: Well, if they filed it under penalty of perjury --

PMAC CHAIR BORENSTEIN: No, we think this is

going to take three months but, frankly, we don't know how long it's going to take.

MR. COURT: Well, it's more like this is what's wrong, we have an outage. And I think this is something that should happen. And by the way, this is our contingency plan, but this is what we're going to say we're doing to fix it, and if it changes, we're going to give you an update.

But having no information meant that on July 1 we had no imports because everybody thought it was going to come back up online. That was the huge problem for that import market on July 1.

And then, to add to that, you buy up the spot market, at Chevron and Tesoro. That's what set the $4 gasoline in the State. It was that lack of information on July 1.

PMAC MEMBER MYERS JAFFE: So, I would render an opinion that, you know, one of the things and the reason I mentioned the State assurance contingency plan is that the whole reason you have inventory -- when we talk about operational inventory, we need to have 18 days because I can't turn off my refinery just because I've run out of crude oil supply to input it.

So, if I know that and I know I'm also in a difficult situation supply-wise, and I'm coordinating

with the State plan, with the CEC, then maybe there needs to be some kind of regulatory framework that tells us how much inventory we need to hold in an "emergency situation", right. Maybe we need two extra days, maybe we need three extra days. I don't -- you know, we can study what Europe does and Japan, right.

But clearly, to me, that is the role of inventory is beyond operational. The reason why you have commercial inventory beyond operational inventories is precisely for these kind of situations.

And if the industry is choosing to run down inventories, if you're having some tax reason that you already know in December you're going to run down your inventories and then, you know, then you have to think about, well, how am I going to fix that later on. And you knowing, in January of February, that there might be a problem with CARBOB in May, then maybe you need to start changing your yields a month earlier, and you need to start building inventory a month earlier.

Because, you know what, Exxon's like the army. You know, there are a lot of ex-Marines and really, fantastic, competent people there. And they know how to plan for every contingency.

So, the question is did they do that? Did Chevron do that? Did Valero do that? I mean, these are

people who are engineers and scientists, with computer simulations and specialized models for designing a logistics system. They are experts.

And the question is, if it didn't happen, why was there a failure? Why did the system fail?

MR. COURT: And that's why I would say transparency is important because the incentive in the market is to keep quiet, let the price rise and reap the benefit. That's what happened.

And sunlight's the disinfectant because it does the opposite, it gets information so that people have to make the moves because, otherwise, it does look damning.

PMAC CHAIR BORENSTEIN: Okay. I think I want to move on to the policy discussion. But I'd actually like the panel members to stay and be available for questions. I promise we won't keep you for more than 40 more minutes. Actually, I promise we won't keep you for more than 25 more minutes because we need time for public comment.

I want to raise my suggestion from almost 20 years ago, now, and get reactions from each of you. Which is, this price spike seems to be caused by a -- well, a price spike is caused by a shortage. And the prices have been driven up.

Now, whether that shortage is artificial or

real, we can have a debate about. But I don't think anybody disagrees with the idea that it's a shortage.

And one potential response to that is to allow more supply and, in this case, non-CARB gasoline. And let's set aside for a moment the environmental aspect so that, although I'm heartened to hear we make gasoline that's almost as clean, and we ship it to Phoenix.

Lynn, do you, Skip, or Jamie have a view on whether allowing non-CARB gasoline -- there is already a waiver procedure, but it's only available to the refinery that has the outage.

And my proposal, 20 years ago, or 17 years ago was to allow it to be available to anyone, with the same surcharge, which I think is now 25 cents a gallon, something like that, so that anyone could sell non-CARB gasoline at any time, with a 25 cent surcharge. Which, of course, they wouldn't do if the whole sale price differed by less than 25 cents.

Any reason to think that wouldn't help take the top off these price spikes?

MR. WESTFALL: I think it would help. I don't think it's going to eliminate them. The first thing that would do would be to access the gasoline that's being exported from the West Coast.

PMAC CHAIR BORENSTEIN: Yep.

MR. WESTFALL: So, that would be an immediate response. After that, though, you're still going to have to go to the same places you get CARB gasoline and explain why you can't got to the Gulf Coast.

PMAC CHAIR BORENSTEIN: Wait, why wouldn't you just be able to go up -- there's only one refinery in Washington State, I understand, that makes CARB gasoline, but there are five refineries.

MR. WESTFALL: No, there are actually two of them I'm aware of. They don't do it efficiently, but go ahead.

PMAC CHAIR BORENSTEIN: Okay. Well, I was told at the last meeting there was one. But, okay, so there's one or two that make CARB gasoline, but there are five or so in Washington that make gasoline.

MR. WESTFALL: Right.

PMAC CHAIR BORENSTEIN: So, why couldn't we access that gasoline pretty quickly when we had a price spike?

MR. WESTFALL: Well --

PMAC MEMBER MYERS JAFFE: And couldn't we truck gasoline in from Nevada and other places?

PMAC CHAIR BORENSTEIN: Well, that gasoline's coming from here, so we would just not ship it to them.

PMAC MEMBER MYERS JAFFE: Oh, okay.

PMAC CHAIR BORENSTEIN: So, it would essentially be a way of not being supplied by Texas, indirectly.

MR. WESTFALL: Well, I mean, most of that conventional gasoline is going to supply Washington State and Oregon. The only excess gasoline on the West Coast, to supply all the markets it's currently supplying, are exports. So, yes, if you pop the environmental requirement, you could access those exports, which you can't do today because they're conventional gasoline.

PMAC CHAIR BORENSTEIN: Wait, why can't we access the stuff they're using in Washington? That's what prices do, right? The price would go up and they would --

MR. COURT: Well, Washington's not -- I think the real-time inventory situation is a problem in Washington. And as I understand it, Washington's environmental is that they have a WABAGH that's probably not going to kill the air in California. Is that right? I mean, it's --

PMAC CHAIR BORENSTEIN: Well, Dave has his hand up, so I mean maybe he knows about this.

MR. COURT: Yeah, I'm just responding to --

PMAC MEMBER HACKETT: So, let's talk about the balances for a minute, right. So, there's two things

we're talking about. One is a spike, which is immediate response to a supply structure. And then the other is the long term higher prices.

And so, at the end of the day, I think you economists think in terms of marginal prices, right, or I mean us lay guys think in terms of the last barrel.

So, I'll defer to Lynn, but I think that they're -- even if the conventional gasoline on the West Coast could be diverted into California, the export gasoline could be diverted into California, say you can do that, I think that the market's still short. And so, the marginal supply is still going to come from India, or Korea, or the UK.

PMAC CHAIR BORENSTEIN: Well --

MR. WESTFALL: Correct. I would agree that the long-term solution is still the same places you're getting from today. It may be just conventional gasoline, but you still got to go to Singapore to get it.

PMAC CHAIR BORENSTEIN: Yeah, I guess I'm just not seeing that. When price goes up, people consume less gasoline. If the price goes up, we, in California consume less, and people in Washington would consume less and they would export less. And they would ship less to Nevada and Arizona, who would then get more from

Texas. And that seems like a lot of sources of gasoline that would bring in -- it would either eliminate or reduce the amount of gasoline we need to bring in from Singapore. It would certainly reduce it.

And so, instead of that last barrel coming all the way from Singapore, maybe it can come from the two refineries in Washington that can make CARB.

MR. COURT: Having been opposed to that when you said it 17 years ago, I would say this, that there are now, as I understand it, regional clean air standards in Washington and other places that aren't that off from California -- I mean, the formulation's different, but the impact on the air probably isn't going to be huge. Am I wrong about that?

PMAC MEMBER HACKETT: Well, the issue is not the formulation.

MR. COURT: No, but I'm just saying --

PMAC MEMBER HACKETT: You just lay that formulation. Severin wages one to make --

PMAC CHAIR BORENSTEIN: We'll get back to that.

MR. COURT: No, but my point is --

PMAC CHAIR BORENSTEIN: I think the surcharge compared to a --

PMAC MEMBER HACKETT: What it comes down to is the total volume. There's not enough total volume on

the West Coast and so the West Coast would remain short. The last barrel's going to come from long distance. It may not have to be the CARB quality anymore, we fixed that, right, but it will still come a long way.

And the prices would still be higher than it would be if -- other than if Torrance were running.

MR. COURT: Well, here's what I would -- here's my only thing I'm positing on that. If we had a West Coast blend that was doing the job that needs to be done in Washington and California, that was fungible, and that refineries in Washington knew they could make it and sell it to a greater place, they might keep greater inventories to do it. If you believe the market works the way Severin believes the market works, I tend to have a less perfect view of the market.

But my point is, the one thing that did come out of this whole thing is since we're getting more and more -- we're getting WABOB. We've got CARBOB. There possibly is a regional solution between California, and Washington, and Oregon. Isn't there an RBOB? There's an RBOB. I mean, all of these refineries are making very different blends, at some added cost, allegedly, that makes it harder for the market to move it.

Anyway, I just would pose that as a possible recommendation.

PMAC CHAIR BORENSTEIN: Can I --

MR. WESTFALL: I think what we're saying here is instead of -- that by doing that, instead of California having all the pain, let's spread the pain to everybody on the West Coast.

(Laughter)

MR. COURT: Well, Washington's already in the --

PMAC CHAIR BORENSTEIN: Well, not just to everybody on the West Coast, if I can finish the -- everybody in Texas because, basically, we ship a bunch of gasoline to Nevada and Arizona. They're supplied by Texas and the West Coast. That gasoline would stop --

MR. WESTFALL: No, it's not.

PMAC CHAIR BORENSTEIN: Which part of that statement is untrue?

MR. WESTFALL: Nevada is supplied by Salt Lake City.

PMAC CHAIR BORENSTEIN: Okay, by Salt Lake City, sorry. But that gasoline would stop going east, it would stay in California. Their gasoline would then come from Texas.

MR. WESTFALL: Except there's a pipeline capacity.

PMAC CHAIR BORENSTEIN: So, you're saying the pipeline is full from Texas and -- well, that's a

testable hypothesis.

MR. WESTFALL: Yes.

PMAC MEMBER FOOTE: Oh, that's one of our --

MR. WESTFALL: It is, yes. You're going to have to ask Kinder Morgan. It's my understanding it's operational full coming from Texas. It can only come from one place in Texas, it comes from El Paso.

PMAC MEMBER HACKETT: Indeed. This is Dave. Indeed, there's significant economic incentive for the Texas refiners, Texas and New Mexico refiners to send the gas to Arizona because the last barrel into Arizona's coming from California, which is an expensive barrel.

PMAC CHAIR BORENSTEIN: But that's surprising because then why is gasoline so much cheaper in Nevada, than in California? If we're actually -- we're the swing producers, you're saying, for Nevada and Arizona, right.

MR. WESTFALL: Correct.

PMAC MEMBER HACKETT: Yes.

PMAC CHAIR BORENSTEIN: So, that means that we have to ramp up production when they need more gasoline?

PMAC MEMBER MYERS JAFFE: And we're they're last barrel.

PMAC CHAIR BORENSTEIN: And that means that it's

crowding out CARB production. So, that means that the opportunity cost of that is the price of CARB gasoline and, yet, we don't sell -- they don't sell the gasoline for anywhere near that much.

PMAC MEMBER HACKETT: Well, I would say that next time we could ask the staff to look at the spot market value, the spot market spreads for CARBOB and AZERBOB, in Los Angeles, in order to give us some ideas about what those numbers are.

I would note that yesterday's spread was about 2 cents a gallon. CARBOB was about 2 cents a gallon over --

PMAC CHAIR BORENSTEIN: But that's AZERBOB, that's not the stuff going to Nevada or the stuff going to the rest of Arizona. We ship gasoline to all of those places, don't we?

PMAC MEMBER HACKETT: Not much gasoline. I think some conventional gasoline comes out of California to Arizona. I'd have to look, but I don't think it's a lot.

PMAC MEMBER MYERS JAFFE: I recall, I don't know if everybody else remembers it or not, the gentleman from Kinder Morgan explaining that there was excess capacity along all the pipelines.

MR. SCHREMP: Well, I think having, and this is

important with the Energy Commission, I mean we've looked at pipeline capacity to neighboring states in the Kinder Morgan system, back in mid-2000s, when gasoline demand was continuing to rise. And Kinder Morgan system was reaching points of maximum capacity, even as Kinder Morgan would state in their SEC filings, and looking at pipeline expansions into those export markets.

Well, then the great recession hit, pipeline capacity was freed up, less gasoline was going there because of less demand. And, east line shipments increased, capability by those refiners to make the AZERBOB spec improved by refinery work conducted at the El Paso refineries. And so, more was now coming in from the east, relieved even more pressure on it.

So, Kinder Morgan is right. Do they have capacity? Yes. To Lynn's point, what is the spare capacity? Can it be semantics, are they like -- are they telling the shippers, you can't sell, we're prorating, we're full.

MR. WESTFALL: There's only one refinery that feeds that line. So, you can have all the pipeline capacity you want, but if the refinery doesn't have the capacity, it doesn't matter.

PMAC CHAIR BORENSTEIN: I'm sorry, Lynn, which pipeline are you talking about?

MR. WESTFALL: The pipeline from El Paso into Arizona is fed by one refinery, the one in El Paso. It is not fed from the Gulf Coast huge refineries.

PMAC CHAIR BORENSTEIN: So, wait, are you saying that the constraint is that refinery, not the pipeline coming into Arizona?

MR. WESTFALL: From time to time it can be either one. At some points in time it was the pipeline capacity. And it can also be the refinery capacity.

PMAC CHAIR BORENSTEIN: Okay.

PMAC MEMBER MYERS JAFFE: Who's refinery is it? What company is the refinery?

MR. WESTFALL: Western.

PMAC MEMBER MYERS JAFFE: Western.

MR. WESTFALL: Western Refinery in El Paso.

PMAC MEMBER SWEENEY: I think, if you had a program like that, you end up finding that in the base case it would also -- the non-disruptive case, people would be figuring out that it would be economically attractive to be selling some of the gasoline that they produced in California.

For example, the California that is made by some of the refineries, when they don't have enough of the right molecules in the crude oil that they would be exporting it. They can't make it into CARBOB, so they

figure out how to sell that into California.

So, if you're going to choose this policy, I think what we have to say is what is the environmental economic tradeoff that we're willing to make? Is 25 cents a gallon enough so that it's -- we're willing to accept the environmental consequences of that? Knowing that in the base case it will happen.

I don't have a sense that 25 cents a gallon --

PMAC CHAIR BORENSTEIN: Well, I did this calculation 17 years ago, about mitigation through things like buying back old cars, and it was a huge win back then.

PMAC MEMBER SWEENEY: Yeah, and I'm willing to bet it would be a huge win, now. So, in order to evaluate this, we can't just talk about the gasoline market. We have to talk about the environmental market. And you know there's some -- there will be many people in the policy community who actually want to put an infinite value, almost, to not messing up the air anymore.

But other than that, I think it can make sense if we get the numbers right.

PMAC CHAIR BORENSTEIN: Right.

MR. COURT: And as someone who lives in L.A., I can tell you maybe it's not what's clearing up the air,

but it makes a big difference, the CARBOB. I mean, our air has gotten unbelievably better in the last 10, 12 years.

PMAC CHAIR BORENSTEIN: Yeah, but if you could get some 1970's cars off the road, which last forever in L.A., you can clean up the air a lot more, it turns out. That's where all the pollution's coming from.

PMAC MEMBER SWEENEY: Well, the data from 17 years ago may be really different from the data now, because cars are a lot cleaner now than they were.

MR. COURT: That's true. That's true.

PMAC CHAIR BORENSTEIN: Well, Bob Sawyer, who was the head of CARB, is the one who works on this.

PMAC MEMBER SWEENEY: Sure.

PMAC CHAIR BORENSTEIN: And his view was certainly that that was where most of it was coming from.

PMAC MEMBER SWEENEY: So, I'm not arguing, necessarily, against it. I'm just saying, you've got to bring in that systematically, if we want to consider that option.

PMAC CHAIR BORENSTEIN: Yeah. Skip, you've been looking like you want to weigh in.

MR. YORK: Yeah, I think maybe, let me see if I can split the middle here and sort of saying I think

what you're saying, Severin, is that if you had this waiver and it's the appropriate one --

PMAC MEMBER SWEENEY: Yeah.

MR. YORK: -- that with the appropriate fee, that prices would start rising along the West Coast, until either demand along the West Coast dropped off to the point where the market rebalanced or prices rose enough to bring in the next import barrel, from some supply source you don't have access to today, call it Asia.

Okay, so that's what's going to stop the price rise, one of those two things will happen.

One of the -- I'd say one of the advantages I think you could have in this sort of system is you might accelerate that if it's a water-borne response, you might accelerate it because you've made it easier for those Asian refineries to make. Because, now, they only have to meet conventional plus pay the fee. And they're already making that fuel.

So, maybe you get a faster response time from them. If in fact they have to -- you know, if in fact we have to raise prices to the point where we've got to pull in that water-borne -- I think you guys are saying the same thing, it's just a matter of how far -- how far does price have to rise until we step out, until as

we're carving off demand, until the next supply source would be coming in.

PMAC MEMBER SWEENEY: Yeah.

PMAC CHAIR BORENSTEIN: Yeah, I think there are a few questions. One is, what's the elasticity of actual final use demand? The other is what's the elasticity of supply from Utah and Texas to substitute?

I thought it was much more significant and I thought the data showed that it was pretty significant. But it's an empirical question.

And the third is what's the probability you end up having to pull stuff in from further and can that be done more quickly.

Kathleen, you're --

PMAC MEMBER FOOTE: Well, that sounds interesting. I think we heard, a couple of meetings ago, about how the actual price is a combination of the actual availability and future expectations, and the future's hard to get right.

So, that would have, probably, a bigger impact on the future market aspect, than what we have now.

MR. YORK: Yeah, and I think it also ends up being a bit more -- part of the future aspect, just because if we think it may or may not be coming, it's a less of a no regrets move for that foreign refiner.

Because he can be making, building that cargo up puts it on the water. If the unit comes back online, he diverts to another market. And he's got a lower opportunity cost of doing that because we've widened the spec limit.

We also might have drawn more refineries in. There might be more refineries in Asia who could meet that spec so, now, you've widened that supply envelope.

PMAC MEMBER FOOTE: So, risk is always an aspect of price, then you reduce the risk and, therefore, reduce the price is what you're saying?

MR. YORK: Yeah.

PMAC CHAIR BORENSTEIN: Well, actually, since we have a couple more minutes and we have you guys here, let me raise another proposal.

So, I was on Attorney General Lockyer's Gasoline Price Task Force.

MR. COURT: So was Jamie.

PMAC CHAIR BORENSTEIN: So was Jamie, 15 years ago. And one of the other proposals was to try to reduce that risk in other ways. One is through setting up some sort of a futures market in California, so that somebody shipping gasoline to California could lock in a sale price, and that would reduce risk and make it more likely that refineries in India, and elsewhere -- it wasn't India back then -- would be willing to sell.

Another is for the State of California, which I think the number is two percent of all CARB gasoline, to start forward contracting and buy gasoline in order, once again, to lock in prices.

And I'm wondering if you, Lynn, or Skip have views on either of those as a way to make it more attractive by removing the risk. But still, obviously, there's going to be a cost to removing the risk or reducing it for sellers.

PMAC MEMBER MYERS JAFFE: Can I add a swing to that, does it matter --

MR. WESTFALL: Well, in my opinion, the West Coast Market, the Stock Market, which is where you would use as a futures price, is just too illiquid to establish a viable futures market.

You guys have a lot of participants to establish a viable futures market and there just aren't that many participants on the West Coast. I can't --

PMAC CHAIR BORENSTEIN: Amy, you want to --

PMAC MEMBER MYERS JAFFE: Yeah, I was just going to say the last thing we'd want in the market, if we were to assess that there's too much market power, was to add a futures contract on top of it and raise the price even more through speculation.

MR. WESTFALL: Particularly when it's an

illiquid market, which it is.

PMAC CHAIR BORENSTEIN: So, how about the other proposal, which is that California, as a State, get into buying? So, we see a price spike. California has an office of emergency preparedness for gasoline purchasing that goes out and says, we are offering a tender for gasoline for delivery 30 days from now, at a price of X?

PMAC MEMBER MYERS JAFFE: The same problem. Now, I'm a trader, I know that you're going to do that tender and I can game the tender. I think it would have to be California, at times when they're not in the prices, buys a certain amount of CARBOB and has a revolving inventory, where you just keep a certain amount.

You know, what you're really saying is can the -- since the industry won't hold the inventory, would the public entity hold the inventory? And then if you do that, again, you have to look at whether it's the public entities would pay for all this.

If the public entities, holding the inventory, have to make sure that the private entities don't reduce their inventory.

MR. COURT: There is also an aspect to that where the fuel would stay -- you know, wasn't like the

purchase was to fuel the fleet when --

PMAC MEMBER MYERS JAFFE: Yeah, you could --

PMAC CHAIR BORENSTEIN: No, that's the point, that California would actually use this to fuel the fleet when it arrived.

MR. COURT: And so, if it arrived and it wasn't needed in the private market, it could fuel the fleet and then --

PMAC CHAIR BORENSTEIN: No, it would be used. I mean, needed is not an economic term. But it would be -- it would arrive, it would be used in the -- it would be put into the system. California, if the price dropped, would eat the difference. And if the price stayed high would get a windfall. And if they paid a fair price, about the expected price, on average they'd do fine.

And in the process they, A, remove the incentive to restrict output to drive an exercise market power because now somebody is making the elasticity of supply much greater. And B, even if it's a completely benign price spike, make it more attractive to import.

MR. COURT: It also seems that if -- you know, we talk about increasing refining capacity, or no one's got a real -- another refinery in California. But if we had a steady need in California from an Indian refinery,

or an Asian refinery, wherever it was, that knew they were making CARBOB and had a market for it, and it was a steady supply, flood the market this year, obviously, would have been a great idea.

So, you know, from a consumer point of view I don't know if there's any downside to that. Maybe it's outside, from a taxpayer point of view, getting stuck with a bigger bill, I don't know.

MR. WESTFALL: There's a fine point on that, that complicates everything, of course. If you look at the imports coming into California, most of them are blending components. It's not CARB gasoline.

The reason for that is that the specifications on CARB gasoline are so tight very few refiners in the world are actually willing to blend a finished CARB gasoline, or even a (inaudible) -- because the specifications are almost within the tolerance of the test.

For instance, sulfur is so low that it would test on spec when it loads in India, and by the time it got here it's off spec.

So, what you see happening in California is the imports are blending components, that then go to California refiners, who have other things in stock that they can touch up the blend with. So, there is a

risk -- if you're going to be an import in California, you're also going to be a blender.

PMAC MEMBER SWEENEY: Right, and there's two elements about how you go here, either of them I think have balance. One, if you're thinking about having a physical inventory that you hole up, that in good measure is ask how effectively our strategic petroleum reserve has been.

And you know that holding inventories of refined products, particularly with high specs, is vastly more expensive than holding inventories of crude oil.

PMAC CHAIR BORENSTEIN: Yeah.

PMAC MEMBER SWEENEY: And then, you still have to make the decision as to when it's released, and you see how much the Federal government is constantly gobbling that one.

And so, for you to want to have refined petroleum product, you're going to have -- inventory, you're going to have to assume that the State of California is so much better than the political forces in Washington, enough better to compensate for the vastly more expensive cost of holding refined products inventories.

So the other thing is you may say, okay, well, no, all I'm doing is making contracts strategically. I

can, in California bureaucracy, I'll think the other market participants, so I'm going to make a bunch of forward purchases based on upon what I think the need is that will compensate for any market power we think is going on. But I've got the internal expertise. That would need a big staff to do that.

MR. WESTFALL: Well, but you can't just hold inventory. You have to actively manage it because of the seasonal specification changes.

PMAC MEMBER SWEENEY: Yeah.

MR. WESTFALL: If you hold winter grade gasoline in inventory, you have to get rid of it by April or May. So, you can't just buy gasoline and have it sit in the tank. You've got to be actively managing it, selling it, replenishing it with the current CEQA spec.

PMAC CHAIR BORENSTEIN: Okay.

MR. WESTFALL: So, if you have --

PMAC MEMBER SWEENEY: And that further expands on my thinking of that idea.

PMAC CHAIR BORENSTEIN: Okay, we're running up against the time constraint here. Dave Hackett wanted to make one more comment and then, unfortunately, we have to cut this off and go to public comments before we promised to end at 2:30, today.

PMAC MEMBER HACKETT: Thanks, Severin. So, one

of the outcomes of the Attorney General's Task Force was a study that the California Energy Commission commissioned, on a strategic fuel reserve. And Stillwater Associates Firm did that. And that's publicly available and it's on the website.

One of the things that we -- we did all of this analysis, we talked to all these folks, we got a good understanding of what's going on. And then at the end we said, well, let's see if there's a way we can figure out how to make one of these things work, given all of the problems that everybody understands about strategic reserves.

And so, one of the key issues here is that the market, the spot market is extremely volatile. And so, it's risky for arbitragers, traders to bring barrels into this market. They're hesitant to do that, even if there weren't any physical barriers, because they could get clobbered, right. The market -- the prices fall dramatically.

And so our thought was that the State could fund an inventory, the taxpayers would essentially pay for, take the risk on of the market volatility. And then, to get around the issue of bureaucrats deciding at what point to release the reserves, we said we'll let the market do that.

And so, market participants could come to the, we called it the Gasoline Bank of California, and make a withdrawal, but they had to replace it within a defined period of six to eight weeks.

And so, it's an interesting concept that we don't have time to work it. But the fundamental principle here is take the risk that's caused by specifications and time out of it and, basically, put that risk on the taxpayer.

PMAC CHAIR BORENSTEIN: Okay. Okay, thank you. Unfortunately --

MR. WESTFALL: And I apologize, but I do have an engagement I have to get to tonight.

PMAC CHAIR BORENSTEIN: Thank you, Lynn. Thank you for joining us. And thank you, Skip, and thank you, Jamie.

And we are going to cut this off and we're going to move to public comment. And there's some on the web and there's Mr. Lockyer.

MR. EGGERS: We don't have any comments from the web.

PMAC CHAIR BORENSTEIN: Oh.

COMMISSIONER SCOTT: So, yeah, Mr. Lockyer, if you'd come up to one of the microphones.

MR. LOCKYER: Okay. Well, good afternoon, I

think my client would like you to at least respond to Jamie's always entertaining with what I call the sort of Donald Trump analytics of policy.

But what I was asked to do was sort of contemporize the two reports that the AG's investigation looked from 2000 to 2004, and Tom Green, I think, was the principal one in our office at the time, and others. And Kathleen's been there during those.

But Severin, Jamie, and a large group of people participated in that. So, I was asked to contemporize the analysis. Which summarized, it's that BP sold a refinery, Shell sold a refinery and now, Exxon sold a refinery. There's no evidence of independent refineries doing different pricing than integrated refineries.

So, we've got new market participants with Valero and Tesoro and, hopefully, soon another.

And then to, hopefully, review in some helpful way, the policy recommendations that we had then and see whether they're viable in current discussions.

So, that's it, thank you.

PMAC CHAIR BORENSTEIN: Okay. Thank you very much. And both of those documents are available, right?

MR. LOCKYER: Yes.

PMAC CHAIR BORENSTEIN: Okay. The 2000 one is on the PMAC website. The 2004 --

MR. LOCKYER: It's on the AG's.

PMAC CHAIR BORENSTEIN: Okay, we should put that up.

If there's no other public comment --

MR. EGGERS: Any other public comment?

PMAC MEMBER HACKETT: I have a process question.

PMAC CHAIR BORENSTEIN: Please, David.

PMAC MEMBER HACKETT: You know, I think we've asked for data from -- certainly, from Wood Mackenzie and others, and I know there have been requests that go into the State. Is there -- I'm kind of directing this at staff, will that stuff go up on the website? Do you guys know how you're going to deal with all that?

MR. EGGERS: I'm sorry, Dave, I could barely hear you.

PMAC MEMBER HACKETT: That there have been information requests and for data from Wood Mackenzie, for example, and maybe some other data. Will that data go up on the website?

MR. EGGERS: Yes, it will, as long as it is public information.

PMAC MEMBER SWEENEY: And may I clarify my request, with Wood Mackenzie. When I suggested all the spread sheets, I didn't mean just the spread sheet that was being shown at that moment. All of the numerical

spread sheets that you put out would be very valuable to put up.

MR. YORK: Yeah.

PMAC MEMBER SWEENEY: And I interpreted your answer is you've committed to do that, but I want to make sure.

MR. YORK: No, that's right. So, what I'll do is I'll provide sort of the raw data and then walk through the calculations that ends up in the chart. That's what you're asking for.

PMAC MEMBER SWEENEY: Rather than give us the spread sheet, so we can look at the formulas --

MR. YORK: Exactly.

PMAC MEMBER SWEENEY: Well, I'd love --

MR. YORK: Okay, I'll give you the spread sheets.

PMAC MEMBER SWEENEY: I always prefer looking at the formula, myself, because sometimes the words in the formula don't always match when somebody -- some people use spread sheets. I'm not saying you're doing it but --

MR. YORK: No, I understood that.

PMAC MEMBER SWEENEY: Yeah.

MR. YORK: So, we'll show you the raw data, plus the calculations of how we got to the --

PMAC MEMBER SWEENEY: That's great.

PMAC CHAIR BORENSTEIN: Dave, you had something?

PMAC MEMBER HACKETT: Yes, and if we could get that information from all of the panelists, that would be good, including the Consumer Watchdog list.

MR. SCHREMP: Yeah, and this is Gordon with the Energy Commission. For process, and maybe have it, how do to that, for the Committee's consideration, one possible course of action is us to post sort of the various questions, information questions that have been posed to us, and we can like have almost like a Q and A. Here is a question and then here is a response, with that information.

I mean, that's one approach we could use to populate additional information into the PMAC website. So, it's just a suggestion for your consideration.

PMAC CHAIR BORENSTEIN: That sounds like a good way of organizing it, for your responses, I think. I don't want to put Wood Mackenzie into that. Because you just have -- they'll be more burdened. Just the figures, the data behind them, and so forth is --

COMMISSIONER SCOTT: Do you have a date by when you would like that, just so that the folks have a sense of when to get that information, I would suggest to Ryan, and then Ryan can get it out to you all?

PMAC CHAIR BORENSTEIN: December 26th.

COMMISSIONER SCOTT: December 26th?

PMAC CHAIR BORENSTEIN: Just kidding. Just kidding.

(Laughter)

PMAC MEMBER SWEENEY: I think everybody has the -- I think everybody has the right to the holidays right now.

PMAC CHAIR BORENSTEIN: I agree. Sometime in January, how's that?

PMAC MEMBER SWEENEY: Yeah.

PMAC CHAIR BORENSTEIN: Okay.

MR. EGGERS: We do have one more public comment?

PMAC CHAIR BORENSTEIN: Oh, one more public comment.

MR. WONG: Hi, my name is Alexander Wong, and these comments and questions are from a personal nature. You know I am a staff member here, at the California Energy Commission, and I just wanted to make that clear.

The question of fungibility has been discussed a lot today, and I don't really want to beat a dead horse on it. But I would like to point out that we did have problems with a very perfectly fungible market, and that was the electricity market in the 1990's. And even though we were able to catch that, there's no guarantee

that fungibility makes the supposed shell game easier or harder to play.

The second is in the discussions here, I think this is -- as a public member, I think that there's a distinction between these short- and long-term disruptions. And the framing of the debate hasn't been clear are on what proposals are pushing on what, if that makes sense.

And then, third, we, here at the Energy Commission, don't have a very granular view of the frictions in the market. For example, what are the obligations, what are the penalties if a branded station, say, goes off the reservation or decides to break their contract?

Now, I'm sure that Gordon can shed some light here, or something. But me, personally, I don't know and I was wondering if that's a topic that you guys are going to address in the future?

Thank you.

PMAC CHAIR BORENSTEIN: Thank you. Yeah, I think that Consumer Watchdog's presentation, and some other comments, have raised the issue of looking beyond just the wholesale market price and, potentially, also looking at retail distribution networks, and pricing, and so forth, that I think the Committee will be looking

at, as well.

With that, Commissioner Scott, do you want to say any final words of wisdom?

COMMISSIONER SCOTT: Well, just only thank you, all, for taking your time here today. I thought it was a very interesting conversation.

We had great presentations from folks. I think we still have a few more questions and information that we're looking for. And then, I look forward to the continued policy discussion.

Thank you for being here.

PMAC CHAIR BORENSTEIN: Okay, thank you. And with that, we are adjourned.

(Thereupon, the meeting was adjourned at 2:23 p.m.)

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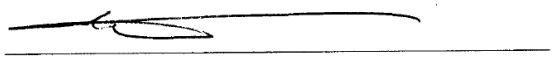
REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of December, 2015.



PETER PETTY
CER**D-493
Notary Public

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of December, 2015.

Barbara Little
Certified Transcriber
AAERT No. CET**D-520