

MEETING  
STATE OF CALIFORNIA  
AIR RESOURCES BOARD

CALEPA HEADQUARTERS  
BYRON SHER AUDITORIUM  
SECOND FLOOR  
1001 I STREET  
SACRAMENTO, CALIFORNIA

THURSDAY, JULY 21, 2016

9:12 A.M.

JAMES F. PETERS, CSR  
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Ms. Edie Chang, Deputy Executive Officer

Mr. Kurt Karperos, Deputy Executive Officer

Ms. Ellen Peter, Chief Counsel

Ms. La Ronda Bowen, Ombudsman

Ms. Emily Wimberger, Chief Economist

A P P E A R A N C E S C O N T I N U E D

STAFF:

Ms. Analisa Bevan, Assistant Chief, ECARS

Mr. Michael Carter, Assistant Division Chief, MSCD

Ms. Sarah Carter, Staff Air Pollution Specialist, ECARS

Mr. David Chen, Manager, Advanced Emission Control  
Strategies Section, MSCD

Mr. Joshua Cunningham, Chief, Advanced Clean Cars(ACC)  
Branch, ECARS

Ms. Shannon Dilley, Attorney, Legal Division

Ms. Ashley Dunn, Air Pollution Specialist, Innovative  
Strategies Branch, Mobile Source Control Division(MSCD)

Mr. Pippin Brehler, Senior Attorney, Legal Office

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Mr. Sam Gregor, Manager, Innovative Strategies Branch,  
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Ms. Annette Hebert, Division Chief, ECARS

Ms. Margret Kim, Senior Attorney Legal Office

Mr. Jack Kitowski, Division Chief, MSCD

Ms. Johanna Levine, Manager, Off-Road Implementation  
Section, MSCD

Ms. Karen Magliano, Division Chief, AQPSD

Mr. Mike McCarthy, Vehicle Program Specialist, Emissions  
Compliance, Automotive Regulations and Sciences  
Division(ECARS)

Ms. Lucina Negrete, Branch Chief Innovative Strategies  
Branch, MSCD

Mr. Jim Nyarady, Manager, Oil & Gas Section, ISD

A P P E A R A N C E S C O N T I N U E D

STAFF:

Ms. Shobna Sahni, Manager, ACC Regulations Section, ECARS

Ms. Elizabeth Scheehle, Chief, Oil & Gas and Greenhouse Gas Mitigation Branch, ISD

Mr. Craig Segall, Senior Attorney, Legal Office

Ms. Maritess Sicut, Chief, Heavy-Duty Diesel Off-Road Strategies Branch, MSCD

Mr. Todd Sterling, Staff, Off-Road Implementation Section, MSCD

Mr. Webster Tasat, Manager, Central Valley Air Quality Planning Section, AQPSD

Mr. Jon Taylor, Assistant Division Chief, AQPSD

Dr. Patricia Velasco, Staff Air Pollution Specialist, Central Valley Air Quality Planning Section, Air Quality Planning and Science Division(AQPSD)

Mr. Floyd Vergara, Division Chief, (ISD)

Ms. Sylvia Vanderspek, Chief, Air Quality Planning Branch, AQPSD

ALSO PRESENT:

Mr. Alan Abbs, California Air Pollution Control Officers Association

Mr. Don Anair, Union of Concerned Scientists

Mr. Bruce Baizel, Earthworks

Mr. Nathan Begtsson, Pacific Gas & Electric

Ms. Elly Benson, Sierra Club

Mr. Tim Carmichael, Southern California Gas Company

Mr. Les Clark, Independent Oil Producers Agency

A P P E A R A N C E S C O N T I N U E D

ALSO PRESENT:

Ms. Vinai Decena, Alliance of Nurses for Healthy Environment

Ms. Cheri, Derohanian, Automobile Club of Souther California

Mr. Juan Flores, Center on Race, Poverty & the Environment

Ms. Margaret Gladstein, Capitol Advocacy

Ms. Sekita Grant, The Greenlining Institute

Mr. Larry Greene, Sacramento Metropolitan Air Quality Management District

Mr. Ron Habel, Division of Oil and Gas and Geothermal Resources

Mr. Jason Hector

Ms. Gloria Herrera, Delano Guardians Community Group

Ms. Bonnie Holmes-Gen, American Lung Association of California

Mr. Randy Horne, NAFTEX Operating Company

Mr. Ryan Kenny, Clean Energy

Ms. Morgan Lambert, San Joaquin Valley Air Pollution Control District

Mr. Eli Love, CALinnovates

Mr. Tim Lovely, MacPherson Oil Company

Mr. Bill Magavern, Coalition for Clean Air

Mr. Jonathan Mann, 360-International, Inc.

Ms. Karen McInnis, Southern California Gas Company

Ms. Jennifer Moeller, Moms Clean Air Force

Mr. John Moffatt, Alliance of Automobile Manufacturers

A P P E A R A N C E S C O N T I N U E D

ALSO PRESENT:

Mr. Simon Mui, Natural Resources Defense Council

Mr. Keith Nakatani, Clean Water Action

Mr. Diarmuid O'Connell, Tesla

Mr. Matt Pakucko, Save Porter Ranch

Ms. Elizabeth Paranhos, Environmental Defense Fund

Ms. Kathryn Phillips, Sierra Club California

Ms. Daisy Pistey-Lyhne, PSE Healthy Energy

Ms. Jenifer Pitcher, Western States Petroleum Association

Mr. Willie Rivera, California Independent Petroleum  
Association

Ms. Jean Roggenkamp, Bay Area Air District

Ms. Lori Russell, Moms Clean Air Force

Ms. Jaclyn Schroeder, Moms Clean Air Force

Mr. Chuck Shulock, Shulock Consulting

Mr. Matt Solomon, Northeast States for Coordinated Air Use  
Management

Ms. Madeline Stano, Center on Race, Poverty & the  
Environment

Mr. Elias Tobias, Environmental Defense Fund

Ms. Felipa Trujillo, Comite Para Mejo Shafter

Mr. Justin Turner, Division of Oil and Gas and Geothermal  
Resources

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

2 CHAIR NICHOLS: Good morning, everybody. Welcome  
3 to the 7-21-2016 Public Meeting of the Air Resources  
4 Board. We will come to order now.

5 And before we begin our agenda, we will say the  
6 Pledge of Allegiance to the flag.

7 (Thereupon the Pledge of Allegiance was  
8 Recited in unison.)

9 CHAIR NICHOLS: Okay. Madam Clerk, would you  
10 please call the roll.

11 BOARD CLERK JENSEN: Dr. Balmes?

12 BOARD MEMBER BALMES: Here.

13 BOARD CLERK JENSEN: Mr. De La Torre?

14 CHAIR NICHOLS: He is here. We could vouch for  
15 it.

16 BOARD CLERK JENSEN: Okay. Mr. De La Torre?  
17 Mr. Eisenhut?

18 BOARD MEMBER EISENHUT: Here.

19 BOARD CLERK JENSEN: Senator Florez?

20 BOARD MEMBER FLOREZ: Here.

21 BOARD CLERK JENSEN: Supervisor Gioia?

22 BOARD MEMBER GIOIA: Here.

23 BOARD CLERK JENSEN: Ms. Mitchell?

24 Mrs. Riordan?

25 BOARD MEMBER RIORDAN: Here.

1 BOARD CLERK JENSEN: Supervisor Roberts?

2 BOARD MEMBER ROBERTS: Here.

3 BOARD CLERK JENSEN: Supervisor Serna?

4 BOARD MEMBER SERNA: Here.

5 BOARD CLERK JENSEN: Dr. Sherriffs?

6 BOARD MEMBER SHERRIFFS: Yes.

7 BOARD CLERK JENSEN: Professor Sperling?

8 BOARD MEMBER SPERLING: Here.

9 BOARD CLERK JENSEN: Ms. Takvorian?

10 BOARD MEMBER TAKVORIAN: Here

11 BOARD CLERK JENSEN: Vice Chair Berg?

12 VICE CHAIR BERG: Here.

13 BOARD CLERK JENSEN: Chair Nichols?

14 CHAIR NICHOLS: Here.

15 BOARD CLERK JENSEN: Madam Chair, we have a  
16 quorum.

17 CHAIR NICHOLS: Thank you.

18 I have a couple of announcements to make before  
19 we begin. First of all, there's a change in the order of  
20 the agenda. We're going to be switching the Large  
21 Spark-Ignition amendments and also the update on the  
22 Technical Assessment Report.

23 So the new order for those of you who are  
24 following us at a distance is:

25 We're going to begin with the Ozone SIP for the

1 San Joaquin Valley.

2 Move to the Proposed Regulation for Greenhouse  
3 Gas Emission Standards for Crude Oil and Natural Gas  
4 Facilities.

5 Then we'll go to the Update on the Joint Draft  
6 Technical Assessment Report.

7 Then the Update on Overcoming Barriers to Zero  
8 and Near-Zero Emission Transportation in Low Income  
9 Communities.

10 And we'll finish off the day with the Proposed  
11 Amendments to the Large Spark-Ignition Engine Fleet  
12 Requirements. And so that means we will -- since that is  
13 a regulatory item of course, if anybody was thinking that  
14 they were going to be leaving early, we will need you for  
15 that one for the vote.

16 Interpretation services will be available in  
17 Spanish for the second item, which is the regulation of  
18 crude oil and natural gas facilities. There are headsets  
19 available outside the hearing room and, they can be picked  
20 up at anytime.

21 Madam Translator, would you say that in Spanish.

22 (Thereupon translation was done.)

23 CHAIR NICHOLS: Gracias.

24 Anyone who wishes to testify on any item is asked  
25 to file a request-to-speak card. They're available in the

1 lobby outside the Board room. And we would appreciate it  
2 if you would do that before we begin the presentation of  
3 that particular item, so that the clerk and her assistants  
4 can organize the list and make sure that everybody is on  
5 it and that we've allowed enough time.

6 Also a reminder for anybody who is not familiar  
7 with our meetings, we impose a three-minute time limit per  
8 speaker. We ask that you just state your name when you  
9 come up to the podium, then put your testimony in your own  
10 words as opposed to reading it, because it's easier for us  
11 to follow; and we will be able to absorb your written  
12 testimony as well.

13 We are required by the management of this  
14 building to remind you that there are exits at the rear of  
15 the room and on either side of the podium here. And in  
16 the event of a fire alarm, we have to evacuate the room  
17 immediately and go downstairs and out of the building  
18 until we get an all-clear signal and when we can come back  
19 and just pick up where we left off.

20 Okay. Before we actually then launch into the  
21 first item, I understand that we have visitors here today  
22 who have already met with Dr. Sherriffs. And I've asked  
23 him if he would say a few words about this special guest.

24 BOARD MEMBER SHERRIFFS: Thank you very much. I  
25 don't think she knew this was going to happen. So...

1 It's always great to put people on the spot.

2           You know, I wanted to recognize a fourth-year  
3 medical student from Iowa who is here in California,  
4 Chelsea Thibodeau, working with a group called Climate  
5 911. And her group is bicycling, "Hurray for Bicycling!  
6 Active Transit," up the San Joaquin Valley putting on  
7 bilingual puppet shows in schools to educate students  
8 about climate change, greenhouse gases. And I know it's  
9 been a great education for the bicyclists and a great  
10 education for the students. I just wanted to recognize  
11 and thank you for coming and helping in our struggle.

12           CHAIR NICHOLS: Would you please stand.

13           We can thank you.

14           (Applause.)

15           CHAIR NICHOLS: We --

16           BOARD MEMBER SHERRIFFS: I also have to add, I  
17 know she's brilliant because she's going to do family  
18 medicine as a residency, and we need more family medicine  
19 doctors

20           (Laughter.)

21           CHAIR NICHOLS: Okay. Well, congratulations.  
22 Thank you so much, and I appreciate -- we didn't mean to  
23 embarrass you, but we really do want to thank you for what  
24 you're doing. It's helpful to all of us, especially the  
25 fact that you're speaking to children in their -- in their

1 communities and then for many of them in their language  
2 too.

3           Okay. The first item on our agenda for today is  
4 the consideration of the 2016 Ozone State Implementation  
5 Plan, or SIP, for the San Joaquin Valley. This is the  
6 first in a series of SIPs that we will be considering for  
7 attaining the federal 8-hour ozone standard which, for  
8 those of who may have forgotten, is currently set at 75  
9 parts per billion. And staff will be presenting these to  
10 the Board over the coming year. The San Joaquin Valley is  
11 one of only two extreme ozone nonattainment areas in the  
12 nation, unfortunately. So therefore, this plan is an  
13 important step in bringing healthier air to San Joaquin  
14 Valley residents.

15           And I do want to note that, you know, we've made  
16 a tremendous amount of progress in this area, but we do  
17 have a lot more to do.

18           Mr. Corey, would you please introduce this item.

19           EXECUTIVE OFFICER COREY: Yes. Thanks, Chair  
20 Nichols.

21           The San Joaquin Valley's 2016 ozone SIP  
22 represents the next building block in planning efforts to  
23 meet increasingly health protective ozone standards. Over  
24 the past decade, ozone levels in the Valley have shown  
25 significant improvement, significant improvement in

1 response to accelerated NOx reductions. And emission  
2 reductions from current control programs will continue  
3 this progress. ARB modeling shows that these reductions  
4 will provide for attainment of the 75 parts per billion  
5 ozone standard by the district's attainment deadline of  
6 2031.

7 Staff has reviewed the district's plan and  
8 concluded that it fully complies with the Clean Air Act  
9 requirements.

10 I'll now ask Patricia Velasco of Air Quality  
11 Planning and Science Division to give the staff  
12 presentation.

13 Patricia.

14 (Thereupon an overhead presentation was  
15 Presented as follows.)

16 STAFF AIR POLLUTION SPECIALIST VELASCO: Thank  
17 you, Mr. Corey.

18 Good morning, Chair Nichols and members of the  
19 Board.

20 --o0o--

21 STAFF AIR POLLUTION SPECIALIST VELASCO: The  
22 primary focus of today's presentation is staff's evolution  
23 of the San Joaquin Valley State implementation plan for  
24 the 75 parts per billion 8-hour standard to support your  
25 action today. This plan builds on the region's ongoing



1 success in reducing ozone pollution. Although these  
2 control programs have also reduced PM2.5 levels, the  
3 Valley continues to face significant challenges in meeting  
4 PM2.5 standards. In the second portion of the  
5 presentation, I will describe the nature of the PM2.5  
6 challenge and provide a preview of the current planning  
7 efforts that will be before you later this year and next  
8 as the SIP amendments.

9 --o0o--

10 STAFF AIR POLLUTION SPECIALIST VELASCO: The SIP  
11 process in the Valley is providing a successful framework  
12 for attainment of increasingly health protective ozone  
13 standards. Just last month, EPA made a final  
14 determination that the Valley has attained the 1-hour  
15 ozone standard, the first extreme nonattainment area in  
16 the country to reach this important milestone. The Valley  
17 is on track to meet the 80-part-per-billion 8-hour ozone  
18 standard by the region's 2023 deadline by relying on the  
19 comprehensive investments in cleaner technologies and  
20 fuels that have provided for attainment of the 1-hour  
21 standard.

22 Last month, the San Joaquin Valley District  
23 adopted a SIP for meeting the 75-part-per-billion ozone  
24 standard. The SIP demonstrates that ongoing reductions  
25 from these control programs will also provide for

1 attainment of the 75-part-per-billion standard by the  
2 Valley's 2031 deadline. This is the -- this SIP is the  
3 focus of your consideration today.

4 Finally, last year EPA further strengthened the  
5 8-hour ozone standard to 70 parts per billion. The  
6 existing control program, coupled with new reductions on  
7 the proposed Mobile Source SIP Strategy that the Board  
8 will be considering in September, are expected to provide  
9 the mobile source reductions needed for attainment of the  
10 70-part-per-billion standard by 2037 and accelerate air  
11 quality progress in the interim.

12 --o0o--

13 STAFF AIR POLLUTION SPECIALIST VELASCO: The maps  
14 on this slide illustrate the progress towards ozone  
15 attainment that is occurring as a result of the control  
16 strategies developed through the SIP process. The highest  
17 values are shown in dark red, with green representing  
18 attainment of the 75-part-per-billion standard.

19 In 1990, nearly the entire Valley violated the  
20 75-part-per-billion standard with peak 8-hour ozone  
21 designed values over 115 parts per billion and  
22 concentrations exceeding the standard over 150 days.  
23 Today, peak ozone levels have declined to less than 95  
24 parts per billion, and the number of days exceeding the  
25 standard has decreased by over 45 percent.

1           Now looking forward, by 2031 ongoing  
2 implementation of ARB and District current control  
3 strategies provide for attainment of the  
4 75-part-per-billion standard throughout the Valley.

5                           --o0o--

6           STAFF AIR POLLUTION SPECIALIST VELASCO: With its  
7 health-based air quality standards, meaningful deadlines,  
8 and requirements for comprehensive plans, the Clean Air  
9 Act has been the basis for the success. Solid science  
10 underpins the Act's comprehensive framework. Clear  
11 deadlines, as well as evaluation of technical feasibility  
12 and costs, guide the development of a effective control  
13 strategies.

14           The Act requirements for minimum control levels  
15 based on the severity of the air quality problem, together  
16 with the rate of progress requirements, ensure steady  
17 progress towards attainment of the air quality standards.  
18 Provisions in the Act also allow for adjustments to the  
19 control strategy and phase-in of controlled requirements  
20 as new information comes forward.

21                           --o0o--

22           STAFF AIR POLLUTION SPECIALIST VELASCO: The  
23 development of Valley SIPs has been supported by  
24 substantial research investments to improve our  
25 understanding of the nature and sources of ozone

1 formation. Comprehensive field studies have been an  
2 important element of these research efforts, reflecting  
3 partnerships between local, state and federal agencies, as  
4 well as academic institutions. The current ozone SIP  
5 continues to build on this foundation, including major  
6 field studies such as the California -- the Central  
7 California Ozone Study in 2000 and the CalNex study in  
8 2010.

9 This research has shown that the majority of  
10 ozone in the Valley is generated from emissions within the  
11 Valley. Reducing NOx emissions is key to meeting ozone  
12 standards in the Valley, given the mix of NOx and VOC  
13 emissions, which includes substantial contributions from  
14 natural sources such as trees and plants. Air quality  
15 modeling has demonstrated that NOx reductions will also  
16 become increasingly effective, leading to accelerated  
17 ozone progress over time. NOx reductions also provide  
18 significant benefits for PM2.5, but must be coupled with  
19 efforts to address other PM2.5 components to provide a  
20 comprehensive attainment strategy, as I will discuss later  
21 in the presentation.

22 --o0o--

23 STAFF AIR POLLUTION SPECIALIST VELASCO: The  
24 results of this science-based approach for development of  
25 control -- of effective control strategies is illustrated

1 in this slide. Trends in Valley NOx emissions are shown  
2 on the left and 8-hour ozone design values on the right.  
3 The time period between 2005 and 2015 is highlighted in  
4 each graph.

5 AS the graphs illustrate, while ozone progress in  
6 the early years was relatively modest, over the last  
7 decade ozone levels have decreased nearly 20 percent as  
8 the pace of NOx reductions has accelerated.

9 --o0o--

10 STAFF AIR POLLUTION SPECIALIST VELASCO: ARB  
11 strategies for mobile sources, together with the  
12 District's stationary source control programs, are  
13 providing the basis for ongoing ozone progress. Key  
14 mobile source programs are highlighted in this slide.

15 The Truck and Bus Regulation, first adopted in  
16 2008, represents a multi-year effort to turn over the  
17 legacy fleet of engines and replace them with the cleanest  
18 available technology. By 2023, nearly all trucks will  
19 meet 2010 engine standards.

20 The Low Emission Vehicle program has set  
21 increasingly tighter exhaust standards for passenger cars  
22 and light-duty trucks. California's Advanced Clean Cars  
23 program combines the Low-Emission Vehicle and  
24 Zero-Emission Vehicle programs into a package of  
25 requirements of new cars through 2025. And the Enhanced



1 source control program. The Truck and Bus and Advanced  
2 Clean Car's regulations, along with incentive programs,  
3 will continue to provide a major portion of these  
4 reductions, ensuring the Valley continues its transition  
5 to cleaner technologies.

6 --o0o--

7 STAFF AIR POLLUTION SPECIALIST VELASCO: In  
8 addition to the attainment demonstration, the SIP  
9 addresses all other air quality -- Clean Air Act  
10 requirements. These elements are fundamental to an  
11 effective planning in ensuring ongoing progress. They  
12 include a requirement for comprehensive emission  
13 inventories, a demonstration that ARB and the District  
14 have adopted reasonably available control measures, so  
15 that all significant sources have a minimal level of  
16 control. In addition, the SIP includes contingency  
17 provisions should progress milestones or the attainment  
18 deadline not be met.

19 Transportation conformity budgets ensure that  
20 transportation plans and projects are consistent with the  
21 SIP and additional evaluations require that sufficient  
22 transport control strategies are in place to offset any  
23 growth in emissions due to vehicle miles traveled.

24 --o0o--

25 STAFF AIR POLLUTION SPECIALIST VELASCO: As

1 mentioned in the previous slide, SIPs must contain  
2 contingency reductions should the attainment deadline be  
3 missed. To ensure ongoing process while new plans are  
4 being developed. EPA guidance calls for contingency  
5 measures to provide a 3 percent reduction in NOx  
6 emissions. Reductions occurring post 2031 from the  
7 current mobile source control program fulfill the majority  
8 of the contingency requirement. However, to address the  
9 small remaining amount needed, the district included a  
10 "black box" commitment of 1.6 tons per day of NOx under  
11 the advanced technology provisions of the Act. The Board  
12 is scheduled to consider the proposed Mobile Source SIP  
13 strategy in September. If approved by the Board, the  
14 reductions identified for the San Joaquin Valley are  
15 sufficient to eliminate the need to include the "black  
16 box" commitment in the SIP submittal to EPA

17           SIPs must also ensure that the monitoring network  
18 characterizes peak ozone concentrations throughout the  
19 region. In 2010, ARB was forced to find a replacement for  
20 the ozone-monitoring site operated at Arvin-Bear Mountain  
21 southeast of Bakersfield for many years. The replacement  
22 site established at Arvin Di Giorgio elementary school was  
23 approved by EPA in May of this year. To provide a formal  
24 acknowledgement within the SIP, the ARB staff report  
25 identifies Arvin-Di Giorgio as the new maximum ozone



1 monitor in the Bakersfield area.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST VELASCO: Now,  
4 moving from ozone, meeting PM2.5 standards within the next  
5 decade will be the Valley's most significant air quality  
6 challenge.

7 In the next few slides I will describe why and  
8 discuss some of the unique aspects for PM2.5

9 --o0o--

10 STAFF AIR POLLUTION SPECIALIST VELASCO: PM2.5 is  
11 a complex mixture generated from a wide variety of  
12 sources. It can be emitted directly into the air from  
13 smoke, dust and diesel soot, or be formed in the  
14 atmosphere from the reactions of gases such as NOx and  
15 ammonia. Thus improving particle pollution requires  
16 control of multiple different components.

17 The mountain ranges that surround the Valley,  
18 along with extended periods of stagnant weather patterns,  
19 are conducive to the formation and accumulation of PM2.5,  
20 especially during the winter months. While annual PM2.5  
21 levels in the Valley have decreased since 2000, the  
22 year-to-year variability in the persistence and severity  
23 of these weather conditions can have a significant impact  
24 on concentrations. The recent drought has further  
25 identified this challenge and held up the Valley's

1 progress towards attainment. The impact is illustrated in  
2 the figure on the right comparing annual average PM2.5  
3 levels in 2012, pre-drought, and 2013, the first year of  
4 the drought

5 --o0o--

6 STAFF AIR POLLUTION SPECIALIST VELASCO: Based on  
7 adverse health effects to both long-term and short-term  
8 PM2.5 exposure, EPA adopted an annual PM2.5 standard of 15  
9 micrograms per cubic meter and a 24-hour standard of 65  
10 micrograms per cubic meter in 1997.

11 As health science has continued to demonstrate  
12 adverse health effects at lower levels, EPA first  
13 strengthened the 24-hour standard to 35 micrograms and  
14 most recently the annual standard to 12 micrograms.

15 Unlike the planning effort for ozone, Clean Air  
16 Act requirements for PM2.5 SIPs apply in a step-wise  
17 fashion. The process begins with a "Moderate SIP" to  
18 evaluate whether an area can meet the standard within 6  
19 years. If this is not feasible, EPA classifies the area  
20 as "Serious" and establishes requirements for a second SIP  
21 submittal that must show attainment within 10 years.  
22 Lastly, if the area does not meet the standard by the  
23 attainment deadline, a third SIP submittal is prepared  
24 that requires particle-formation emissions be reduced by 5  
25 percent every year until attainment. This is known as a 5

1 percent plan.

2 --o0o--

3 STAFF AIR POLLUTION SPECIALIST VELASCO: Today,  
4 all three steps apply in the Valley.

5 For the Most recent standard of 12 micrograms per  
6 cubic meter, an initial "Moderate" SIP is due this fall.  
7 Given current PM2.5 levels, this SIP will demonstrate the  
8 impracticability of meeting the standard within the first  
9 six years, and will request a reclassification to  
10 "Serious."

11 A "Serious" SIP for the 35-microgram 24-hour  
12 standard is due next summer.

13 Finally, the Valley failed to attain the original  
14 15 and 65-microgram standards by the end of 2015,  
15 triggering requirements for a new 5 percent SIP.

16 ARB and District staff currently are currently  
17 discussing consolidation of the serious PM2.5 -- sorry --  
18 "Serious" SIP for the 35-microgram standard and the 5  
19 percent SIP for the 15- and 65-microgram standards, since  
20 meeting the 35-microgram standard will drive the overall  
21 attainment strategy. Crafting these SIPs will be  
22 challenging, but is critical for achieving healthful air  
23 in the Valley over the next decade.

24 --o0o--

25 STAFF AIR POLLUTION SPECIALIST VELASCO: Air

1 quality efforts are underway to evaluate the magnitude of  
2 reductions needed for attainment. The PM2.5 attainment  
3 strategy will need to consider the diversity of sources  
4 that contribute to PM2.5 as well as the specific time  
5 frames to meeting the various standards. Additional  
6 reductions from District sources will be critical based on  
7 their contribution to PM2.5 levels in the Valley. For  
8 example, directly emitted PM2.5 typically comprises  
9 between 35 and 50 percent of peak PM2.5 concentrations.

10 Strategies to reduce PM2.5 as part of the SIP  
11 will also be coordinated with efforts to reduce black  
12 carbon, a component of PM2.5, as part of the Short-Lived  
13 Climate Pollutant Strategy, providing both air and climate  
14 benefits.

15 --o0o--

16 STAFF AIR POLLUTION SPECIALIST VELASCO: In  
17 combination with direct PM2.5 reductions, accelerating the  
18 pace of NOx reductions will be necessary. Ongoing mobile  
19 source NOx reductions will provide for significant  
20 regional improvement, but strategic use of incentive  
21 funding will be essential to achieve earlier penetration  
22 of cleaner technologies that are identified in the Mobile  
23 Source SIP Strategy.

24 As I noted, we have begun the technical work to  
25 define the scope of reductions needed as well as

1 discussions with both the District and EPA on development  
2 of the required SIPs. All three agencies will be meeting  
3 next week to lay out approaches and timelines for PM2.5  
4 planning efforts over the next year.

5 --o0o--

6 STAFF AIR POLLUTION SPECIALIST VELASCO: In  
7 closing, the 2016 Ozone SIP demonstrates attainment of the  
8 75-part-per-billion standard by the Valley's 2031  
9 attainment deadline. ARB staff has determined that the  
10 SIP meets all of the requirements of the Clean Air Act and  
11 recommends that the Board approve the SIP as a revision to  
12 the California SIP.

13 In addition, staff recommends the Board approve  
14 designating Arvin-Di Giorgio as the maximum ozone  
15 concentration monitor for the Bakersfield area as a  
16 revision to the California SIP and direct the Executive  
17 Officer to submit the SIP and the ARB staff report to EPA.

18 This concludes my presentation, and we will be  
19 happy to answer any questions you might have.

20 CHAIR NICHOLS: Thank you. I think we'll defer  
21 questions until we hear from the District and any other --  
22 we have one other witness who has signed up. So why don't  
23 we go ahead and take testimony now then.

24 MR. LAMBERT: Good morning, Madam Chair and  
25 members of the Board. My name is Morgan Lambert. I'm

1 deputy air pollution control officer with the San Joaquin  
2 Valley Air Pollution Control District, and I've come today  
3 to express our support for your staff's recommendation to  
4 approve the 2016 Ozone State implementation Plan for the  
5 San Joaquin Valley.

6 I wanted to express our gratitude and  
7 appreciation to Mr. Corey and Mr. Karperos and their staff  
8 for their efforts to working -- diligent efforts and hard  
9 work in working with the District to put together this  
10 plan which is before you today.

11 As noted by your staff during their presentation,  
12 significant challenges lie ahead in bringing the Valley  
13 into attainment with both the ozone and PM2.5 plans, which  
14 continue to get more stringent and more stringent at the  
15 federal level. The District is committed to working  
16 collaboratively with ARB staff to identify strategies and  
17 to undertaking a comprehensive evaluation of all of our  
18 local district rules and regulations, whether those be for  
19 NOx or directly emitted PM2.5, to identify feasible  
20 control strategies to reduce both ozone and PM2.5  
21 concentrations.

22 The District believes that NOx reductions are  
23 critical to reaching attainment of both the ozone and  
24 PM2.5 strategies, as directly emitted 2.5 opportunities  
25 may be difficult and infeasible within the Valley.

1           However, with that, we want to thank you for your  
2 consideration of this item and the opportunity to address  
3 your board on this item today.

4           Thank you.

5           CHAIR NICHOLS: Thank you.

6           Thanks.

7           And Mr. Kenny.

8           MR. KENNY: Good morning, Chair Nichols, members  
9 of the Board. My name is Ryan Kenny. I'm with Clean  
10 Energy. We're the nation's largest provider of natural  
11 gas to a renewable natural gas transportation field.

12           We just wanted to offer support for this item,  
13 especially the strategic use of incentives to accelerate  
14 mobile source NOx reductions. We believe that is a key  
15 part of this SIP.

16           As you know, the Mobile Source Strategy document  
17 does offer a recommendation of deployment of 900,000  
18 low-NOx trucks powered by 50 percent renewable fuel by  
19 2031. We believe that would be key as far as those  
20 incentives.

21           As you know, recently a major report came out  
22 called "Game Changer," which was sponsored by several  
23 stakeholders, including the South Coast Air Quality  
24 Management District. And Game Changer did offer a -- some  
25 benefits of near-zero strategies over the current fuel

1 cell and electric vehicle options in the heavy-duty space,  
2 which does include three to eight times more NOx  
3 reductions, five to 14 times more greenhouse gas emission  
4 reductions, and it's four times more cost effective. And  
5 it also helps meet the short-lived climate pollutant  
6 reduction goals.

7           So we do believe the low NOx near-zero strategy  
8 with 0.02 NOx'd engines would play a big part in meeting  
9 the NOx and PM reduction goals.

10           Thank you.

11           CHAIR NICHOLS: Thank you.

12           I don't have any more witnesses. Is there  
13 anybody else wanting to speak on this item?

14           Okay. Then we can close the record at this point  
15 and bring it back to the Board for discussion.

16           Comments?

17           I see Mr. Berg is -- oh, we'll start with you,  
18 Dr. Sherriff's. It's okay. The far end gets to go first.

19           BOARD MEMBER SHERRIFFS: Last but not least.

20           Well, this is a remarkable moment, because when I  
21 came on to the San Joaquin Board four years ago everybody  
22 was telling me how impossible it was going to be to meet  
23 this ozone standard. And here we are. Congratulations.

24           And that said, this is the briefest celebration  
25 on record.



1 (Laughter.)

2 BOARD MEMBER SHERRIFFS: Because we have nothing  
3 but hard work ahead of us. So I hope you enjoyed the  
4 congratulations because that's it, done, back to work.

5 (Laughter.)

6 BOARD MEMBER SHERRIFFS: It's really  
7 extraordinary.

8 But it is extraordinary how things have come  
9 together, the collaboration between the air districts,  
10 between ARB, stakeholders; the ability to leverage  
11 incentive funds; and how this has set us on the path to  
12 meet the next standard and how, surprise-surprise, PM2.5  
13 looks like the more difficult hurdle, but how the good  
14 work that we've accomplished on this sets us on a good  
15 path in that direction. And clearly we have some heavy  
16 pulling.

17 But, you know, once again, four years ago it  
18 looked impossible, but we remained aspirational; and here  
19 are, success. So thanks to the air district, thanks to  
20 ARB, thanks to all the stakeholders for their  
21 contributions to this. And now back to work.

22 CHAIR NICHOLS: We're not used to having  
23 uncontested actions from the San Joaquin.

24 (Laughter.)

25 CHAIR NICHOLS: But I agree that this is a good

1 moment and happy to be here for it.

2 BOARD MEMBER BALMES: Could I add a comment in  
3 that vein?

4 CHAIR NICHOLS: All right.

5 BOARD MEMBER BALMES: Well, since you sort of  
6 obliquely raised it, there has been a fair amount of  
7 noise - and I use that word advisedly - about how the  
8 Clean Air Act doesn't work in -- especially with regard to  
9 the San Joaquin Valley. And I'd say that the presentation  
10 from staff today shows how much the Clean Air Act works  
11 and how the air is cleaner. We have more to do, but it  
12 doesn't mean we junk the Clean Air Act. I would venture  
13 to say that it's been the most successful environmental  
14 regulation this country's ever seen.

15 CHAIR NICHOLS: Yes, I agree.

16 Okay. Ms. Berg.

17 VICE CHAIR BERG: So, Madam Chair, I'll move  
18 Resolution 16-8, with also my extreme congratulations. I  
19 was at the San Joaquin board meeting in 2007. We were  
20 talking about having testimony about whether we should  
21 have no-drive days in the San Joaquin Valley because  
22 things were looking so bleak. The black box was very  
23 large, and it was extremely contentious, and it did feel  
24 at the time that it was impossible.

25 So as I look at the map on slide 4, it's very

1 impressive. And so I'm extremely encouraged that we'll be  
2 able to tackle the PM2.5 with the same great results.

3 So congratulations, San Joaquin Valley, and  
4 congratulations, staff.

5 BOARD MEMBER SHERRIFFS: Second.

6 CHAIR NICHOLS: We have a motion and a second.  
7 Any further discussion on this item?

8 BOARD MEMBER RIORDAN: Madam Chair, I just want  
9 to make one comment about -- and I certainly support this.

10 The staff or someone must have worked very hard  
11 to have our monitor accepted. And I want to acknowledge  
12 that, because that was, I remember, a big issue at one  
13 time. And so I know it takes time and some lobbying and  
14 whatever else, but you are to be congratulated.

15 CHAIR NICHOLS: Thank you. I agree.

16 All right. I think we can probably just do this  
17 on a voice vote then based on the comments so far.

18 Would all in favor of the Resolution Number 16-8  
19 please say aye.

20 (Unanimous aye vote.)

21 CHAIR NICHOLS: Any opposed?

22 Any abstentions?

23 Okay. Very good.

24 Thank you all.

25 The next item on our agenda is proposed

1 regulation for greenhouse gas emission standards for crude  
2 oil and natural gas facilities.

3 Both the 2008 Climate Change Scoping Plan and the  
4 subsequent first update to the Climate Change Scoping Plan  
5 identified the oil and gas sector as a large source of  
6 greenhouse gas emissions. Both plans include the  
7 regulation of oil and gas operations that is covered in  
8 the proposed regulation that's before us now as a  
9 potential measure to help achieve the goals of SB 32 --  
10 sorry -- of AB 32. That was a Freudian slip. It's AB 32.

11 (Laughter.)

12 CHAIR NICHOLS: Methane is particularly effective  
13 short-lived climate pollutant and is also the second  
14 largest man-made contributor to greenhouse gas emissions  
15 globally.

16 The recently proposed short-lived climate  
17 pollutant strategy includes a 40 percent reduction of  
18 methane by 2030, with a 40 to 45 percent reduction from  
19 the oil and gas sector as a whole by 2025. The proposed  
20 regulation is expected to achieve a reduction of more than  
21 40 percent in methane emissions from all oil and gas  
22 upstream sectors such as oil and natural gas production,  
23 processing, and storage facilities. It will reduce  
24 methane emissions from the sources covered by the proposed  
25 regulation by more than 50 percent.

1           Now, I can't resist, particularly as a Southern  
2 California resident, pointing out that the recent events  
3 in Aliso Canyon remind us that we have an aging  
4 infrastructure that's used at quite a number of oil and  
5 gas facilities throughout California, and that we have a  
6 great need to conduct regular and routine emissions  
7 testing at facilities in order to quickly pinpoint the  
8 sources of emissions and ensure that leaks are repaired  
9 before they have a chance to grow into disasters.

10           Fixing these leaks will also require that we  
11 reduce -- it will also have the effect - I'm sorry - of  
12 reducing emissions of volatile organic compounds and toxic  
13 air contaminants. So there are multiple benefits beyond  
14 just climate change from these cleanup activities.

15           Many oil and gas facilities are located in or  
16 near disadvantaged communities as well. And this  
17 regulation will also reduce over a hundred tons per year  
18 of toxic emissions that have an impact on those  
19 communities, including non-disadvantaged. But there is  
20 a -- unfortunately, a correlation.

21           Okay. Mr. Corey, would you please introduce this  
22 item.

23           EXECUTIVE OFFICER COREY: Yes. Thanks, Chair.

24           This regulation will substantially reduce methane  
25 emissions from upstream oil and gas production equipment;

1 natural gas gathering and boosting stations and processing  
2 plants; natural gas transmission compressor stations and  
3 underground natural gas storage facilities.

4 In 2009, staff conducted a comprehensive study of  
5 the sector which included site visits, field testing, and  
6 a detailed survey of the related equipment. In over the  
7 past few years, staff conducted multiple public workshops  
8 and numerous meetings with individual stakeholders. Staff  
9 also consulted with the Environmental Justice Advisory  
10 Committee.

11 ARB will be working on agreements with the air  
12 districts to finalize the roles and responsibilities.  
13 We're also exploring opportunities to assist the air  
14 districts with the costs associated with implementing and  
15 enforcing the regulations.

16 The federal government has also recently  
17 finalized rules controlling methane from sources in this  
18 sector and is expected to continue to regulate in this  
19 area. Therefore ARB is taking care to ensure that ARB  
20 rules can also support compliance with federal rules where  
21 applicable, as well as securing further reductions.

22 Comments as to the timing of this particular  
23 rulemaking had been raised, with some comments asking that  
24 the process be sped up, others that it be extended.  
25 Therefore, before I turn the program -- the presentation

1 over to program staff, I've asked Ellen Peter, Chief  
2 Counsel, to give an overview of the overall timelines and  
3 required elements of California's rulemaking process, as  
4 it should provide some useful context.

5 So with that, Ellen.

6 CHIEF COUNSEL PETER: Thank you.

7 In a 1979 statute The Office of Administrative  
8 Law, or OAL, was established as the statewide agency to  
9 ensure a clearer orderly process for adoption of State  
10 regulations.

11 OAL's training course is three days. So what I'm  
12 providing here in the next few minutes is a very brief  
13 overview of the process.

14 (Laughter.)

15 CHIEF COUNSEL PETER: I should note that before  
16 the formal OAL rulemaking process begins, typically ARB  
17 staff has been involved in one or more years of work. The  
18 work includes workshops, site visits, conducting studies  
19 and analysis, and one-on-one meetings with stakeholders.

20 One key element in the rulemaking process is  
21 notice to the public. This notice is to ensure an open,  
22 transparent process; and the steps include notice of  
23 what's to be changed, notice of the proposed regulatory  
24 language to be considered, what is the reasoning for the  
25 proposed changes - and this reasoning's reflected in the

1 Initial Statement of Reasons, or ISOR - and what are the  
2 impacts of the proposed change, both economic and  
3 environmental impacts.

4 A second key element is soliciting and  
5 considering the input from the public.

6 The OAL process must be completed within one year  
7 from the published regulatory notice, and formal comment  
8 periods are also required. These comments can be on the  
9 proposed regulation and also can be on the possible  
10 environmental impacts of any proposal.

11 The first formal OAL comment period is 45 days,  
12 and that's triggered by OAL's publication of the notice.

13 At ARB there's at least one public board meeting  
14 where the proposal is considered. If further refinements  
15 to the proposal are made, OAL requires a subsequent formal  
16 notice and a new comment period which is at least 15 days.  
17 If there are possible environmental impacts, staff must  
18 prepare written responses to comments on these  
19 environmental impacts and then give these responses to the  
20 Board to consider before it acts on the proposal.

21 Thus, if there's 15-day changes and if  
22 environmental comments are anticipated, many of our items  
23 require two board hearings. And that's the case with this  
24 one today, the proposed oil and gas regulation, and it's  
25 to be set to be considered for a vote when it returns to



1 the Board in early 2017.

2 The next key element before the proposed  
3 rulemaking package goes to OAL is the documentation of the  
4 comments and decisions. This is the final statement of  
5 reasons. It's prepared and it lists all the formal  
6 comments and the responses.

7 After the entire package is given to OAL, their  
8 staff has up to 30 working days to review and approve.  
9 Once approved, OAL submits to the Secretary of State and  
10 specifies the effective date of the new regulation.

11 After a regulation is final, there's often lead  
12 time built in to allow the regulated companies to come  
13 into compliance.

14 In this case for proposed oil and gas regulation,  
15 there's also lead time for the local air districts to take  
16 their implementation steps. For example, if a local air  
17 district wants to adopt its own regulations to inspect or  
18 enforce, this air district will need to comply with its  
19 own rule adoption process.

20 So I hope this brief summary is helpful in  
21 clarifying some of the legally required steps to adopt our  
22 regulations.

23 And I will turn it back to Richard.

24 CHAIR NICHOLS: Thank you.

25 If there are no questions at this point -- they

1 may come up later. But for now I think that's a good  
2 introduction. This process has gotten longer and more  
3 complicated over time. But I think that the staff has  
4 laid it out in a way that makes it clearer that there is  
5 room for new information and for change as information  
6 becomes available.

7 Thanks.

8 EXECUTIVE OFFICER COREY: That's correct. Thank  
9 you, Chair.

10 So now I'm going to ask Joe Fischer of the  
11 Industrial Strategy's Division to give the staff  
12 presentation.

13 Joe.

14 (Thereupon an overhead presentation was  
15 Presented as follows.)

16 AIR RESOURCES ENGINEER FISCHER: Thank you, Mr.  
17 Corey. Good morning, Chair Nichols and members of the  
18 Board.

19 Today I'll be presenting the proposed regulation  
20 for greenhouse gas emission standards for crude oil and  
21 natural gas facilities.

22 --o0o--

23 AIR RESOURCES ENGINEER FISCHER: I'll begin by  
24 providing a little background, touch on some closely  
25 related oil and gas efforts, and briefly discuss oil and

1 gas operations in California. I will then present the  
2 proposed regulation, its impacts, and Staff's recommended  
3 15-day changes.

4 --o0o--

5 AIR RESOURCES ENGINEER FISCHER: Now I'll go  
6 through a little background.

7 --o0o--

8 AIR RESOURCES ENGINEER FISCHER: Both the  
9 original and 2013 update to the AB 32 scoping plan  
10 identified the oil and gas sector as a significant source  
11 of methane emissions. The proposed regulation covers  
12 intentional vented emissions as well as unintentional  
13 fugitive emissions or leaks.

14 In addition to AB 32, the proposed short-lived  
15 climate pollutant strategy includes a 40 to 45 percent  
16 reduction in methane from the oil and gas sector by 2025.

17 Finally, several measures contained in the  
18 proposal reduce emissions from well stimulation events and  
19 fracking, which are the focus of SB 4.

20 --o0o--

21 AIR RESOURCES ENGINEER FISCHER: This slide shows  
22 methane emissions in California. Methane is emitted from  
23 a wide range of sources, including agriculture, waste  
24 handling, and oil and gas related activities. In 2013,  
25 methane emissions from oil and gas extraction, storage,

1 pipelines, and natural gas seeps accounted for  
2 approximately 15 percent of the total methane emissions in  
3 California.

4 --o0o--

5 AIR RESOURCES ENGINEER FISCHER: It's important  
6 to briefly discuss the roles of both ARB and the districts  
7 and how they interact when it comes to addressing criteria  
8 pollutants and precursors, toxic air contaminants, and  
9 greenhouse gases.

10 In general, the local districts are primarily  
11 responsible for stationary sources, such as oil and gas  
12 production facilities, while the ARB is responsible for  
13 mobile sources, fuels, and consumer products.

14 However, because ARB is the primary agency  
15 responsible for implementing AB 32, ARB's responsibility  
16 includes stationary sources if GHGs are involved, as is  
17 the case with today's proposed regulation.

18 --o0o--

19 AIR RESOURCES ENGINEER FISCHER: I'll now briefly  
20 discuss other related oil and gas efforts by ARB and other  
21 agencies.

22 --o0o--

23 AIR RESOURCES ENGINEER FISCHER: As I mentioned,  
24 the local air districts play a major role in reducing  
25 emissions from stationary sources. In fact, some

1 districts have been regulating fugitive emissions since  
2 the 1980s for the purpose of reducing volatile organic  
3 compounds, or VOCs, which are ozone precursors.

4           However, our proposal covers methane, which has  
5 been deemed a non-VOC and therefore specifically exempted  
6 from air districts' programs.

7           Given district staff's experience and knowledge  
8 in the oil and gas sector, ARB worked closely with the  
9 districts throughout the course of the regulation  
10 development process, and we have worked to harmonize the  
11 requirements with existing district rules.

12                           --o0o--

13           AIR RESOURCES ENGINEER FISCHER: We've also been  
14 reviewing U.S. EPA actions related to oil and gas  
15 facilities. In June, EPA finalized their new source  
16 performance standards and is also working on guidelines  
17 and rules for existing sources.

18           Although the source categories proposed today are  
19 the same or very similar, our proposal is for both new and  
20 existing sources and is generally equivalent or more  
21 stringent than EPA's. It's also broader in coverage,  
22 which means it applies to more equipment.

23           We've been working with EPA and the districts to  
24 harmonize these requirements as much as possible, in order  
25 to prevent confusion, and to streamline the different

1 testing and reporting requirements.

2 --o0o--

3 AIR RESOURCES ENGINEER FISCHER: Located at an  
4 underground storage facility in Southern California, the  
5 Aliso Canyon gas leak was a significant source of methane  
6 emissions. In response to the event, the Governor  
7 released an order on Aliso Canyon with specific direction  
8 to address the leaking methane. The Division of Oil and  
9 Gas and Geothermal Resources, or DOGGR, promulgated  
10 emergency regulations and recently published draft  
11 permanent regulations for underground storage facilities.

12 In addition, a report is being developed by the  
13 California Council on Science and Technology, along with  
14 interagency involvement, to address the long-term  
15 viability of storage facilities in California.

16 In developing this proposal, staff considered  
17 Aliso Canyon and other leakage events occurring at  
18 underground storage facilities.

19 --o0o--

20 AIR RESOURCES ENGINEER FISCHER: In addition to  
21 other agencies' actions, I want to touch briefly on other  
22 oil and gas related efforts here at ARB. As I mentioned,  
23 well stimulation, including fracking, is subject to SB 4,  
24 which requires DOGGR to permit these events. ARB is  
25 reviewing permits and in some cases requesting air

1 monitoring for certain activities to ensure that the state  
2 is being protective of public health, particularly for  
3 stimulated wells near disadvantaged communities.

4 ARB is also overseeing methane hot spots  
5 flyovers, as required by AB 1496. As I will discuss  
6 later, these flyovers can aid in tracking progress and  
7 compliance.

8 Finally, we are also involved with other types of  
9 testing at oil and gas facilities. We are currently  
10 planning to perform testing on produced water percolation  
11 ponds, as well as undertake air monitoring near oil and  
12 gas impacted communities later this year. Both of these  
13 efforts are the result of listening to the environmental  
14 justice community's concerns.

15 --o0o--

16 AIR RESOURCES ENGINEER FISCHER: I will now take  
17 a few minutes describing oil and gas operations in  
18 California.

19 --o0o--

20 AIR RESOURCES ENGINEER FISCHER: As you can see  
21 in this illustration, oil production primarily occurs in  
22 the Central Valley and Southern California, and the gas  
23 that is produced with the oil is called associated gas.  
24 In fact, the majority of gas produced in California is  
25 associated gas.

1           In Northern California, however, natural gas  
2 production is not associated with oil production, and  
3 called unassociated gas or dry natural gas.

4                   --o0o--

5           AIR RESOURCES ENGINEER FISCHER: This slide shows  
6 that the proposed standards apply to upstream and  
7 midstream facilities, including production, gathering and  
8 boosting, underground natural gas storage, and natural gas  
9 transmission facilities.

10           The transmission and distribution pipelines and  
11 related facilities are covered by a proceeding underway at  
12 the California Public Utilities Commission pursuant to  
13 Senate Bill 1371. Staff has been working closely with the  
14 CPUC and stakeholders on that rulemaking. Overall, these  
15 two regulations cover the entire natural gas system.

16                   --o0o--

17           AIR RESOURCES ENGINEER FISCHER: Before moving  
18 into the specific measures, I'd like to provide some  
19 background on what a basic crude oil system looks like. A  
20 crude oil and water emulsion is pumped from the subsurface  
21 and piped into a separator where the oil and water are  
22 separated into two different products. The oil is sent to  
23 a storage tank while the water is sent to a tank or sump.  
24 This figure depicts what we define as a separator and tank  
25 system.



1           If these tanks are opened to the air, they can be  
2 a source of air pollutant emissions since they would be  
3 the first place the fluid reaches atmospheric pressure and  
4 pollutants are released from the emulsion, or "flashed  
5 off."

6                           --o0o--

7           AIR RESOURCES ENGINEER FISCHER: In a dry natural  
8 gas system, the basic concept is similar. But here the  
9 separator is pressurized and it's used to separate gas  
10 from water. This too is defined as a separator and tank  
11 system.

12                           --o0o--

13           AIR RESOURCES ENGINEER FISCHER: I'll now go  
14 through the proposed regulation standards.

15                           --o0o--

16           AIR RESOURCES ENGINEER FISCHER: First, I'll take  
17 a moment to talk about the regulation development process  
18 to outline some of the work that fed into the regulation  
19 proposal.

20           Staff conducted site visits to a number of  
21 facilities located throughout California to learn about  
22 the different operations and equipment. We also conducted  
23 field testing programs to develop the flash analysis test  
24 procedure and undertook a comprehensive survey of oil and  
25 gas equipment.

1           We also formed working groups and held  
2 stakeholder meetings to discuss the different strategies  
3 options. We held five separate workshops, including one  
4 in Bakersfield, to present and solicit feedback on the  
5 proposed controls and regulatory language.

6                           --o0o--

7           AIR RESOURCES ENGINEER FISCHER: This slide  
8 summarizes the different proposed controls for the major  
9 groups of emission sources, which I will outline in more  
10 detail in the following slides.

11           We are proposing vapor collection for  
12 uncontrolled separator and tank systems and leak detection  
13 and repair, or LDAR, for leaking connectors and equipment.  
14 For underground storage facilities we are proposing  
15 additional monitoring requirements. And for other  
16 sources, such as compressors and pneumatic devices, we are  
17 proposing specific leak standards in addition to LDAR.

18                           --o0o--

19           AIR RESOURCES ENGINEER FISCHER: The standards we  
20 are proposing today apply to separator and tank systems  
21 found at all types of oil and gas facilities. Flash  
22 analysis testing is required to determine the annual  
23 methane emissions, and vapor controls are required for  
24 systems with emissions that are above 10 metric tons of  
25 methane per year. We have also included an exemption for

1 very low throughput systems, because staff estimates that  
2 those systems will not exceed the proposed emission  
3 standard.

4 --o0o--

5 AIR RESOURCES ENGINEER FISCHER: Vapor collection  
6 systems and control devices are used to handle the  
7 collected vapors, and we recognize the importance of  
8 reducing NOx emissions whenever possible because NOx is a  
9 precursor to ground level ozone. The proposed  
10 requirements take a tiered approach to addressing NOx  
11 emissions while still controlling the newly collected  
12 vapors.

13 First, operators are required to route any vapors  
14 collected as part of this regulation to an existing sales  
15 gas, fuel gas, or underground injection system. This  
16 ensures that the vapors are handled as efficiently as  
17 possible without any undue emission impact.

18 In the event that the facility cannot handle the  
19 vapor using one of these options, the facility must use a  
20 low-NOx device to handle the collected vapor. The  
21 proposed low NOx standard allows for the use of  
22 microturbines, low-NOx incinerators, and any  
23 non-combustion technology.

24 The second part of this proposal requires  
25 facilities to replace existing high-NOx emitting flares

1 with low-NOx devices in the event that their facility is  
2 required to control additional vapor as specified in the  
3 proposal. This will result in reduced NOx emissions from  
4 the exist -- from the existing vapor already being  
5 controlled, which will more than offset the overall  
6 statewide NOx emissions from combusting vapors due to the  
7 proposed regulation.

8           However, the San Joaquin Valley Air Pollution  
9 Control District is planning a study in their flare  
10 minimization plan and may require low-NOx devices in the  
11 future. Our proposal will get reductions now, and because  
12 of the importance of NOx in the valley, ARB will follow  
13 the District's rulemaking and it will work with them to  
14 quantify and address any additional NOx that warrants  
15 further action.

16                           --o0o--

17           AIR RESOURCES ENGINEER FISCHER: Circulation  
18 tanks are used in conjunction with well stimulation  
19 treatments, and are primarily used to remove excess sand  
20 from a well after hydraulic fracturing. These tanks may  
21 contain chemicals related to fracking fluids as well as  
22 crude oil and gases contained in the well bore. In order  
23 to be health protective, staff is proposing that all  
24 circulation tanks be controlled for emissions regardless  
25 of emission level.

1           Because circulation tanks have never been  
2 controlled for emissions, we're proposing a phased-in  
3 approach for these sources. First, operators must develop  
4 a best management practices plan to mitigate the emissions  
5 and then must perform a technology demonstration and  
6 report back to the ARB on progress. This provides  
7 additional time to design and test equipment such as a  
8 vapor storage tank or bladder that does not require  
9 supplemental fuel gas to operate prior to the January 1st,  
10 2020, deadline when the control requirements take effect.

11           --o0o--

12           AIR RESOURCES ENGINEER FISCHER: Leak detection  
13 and repair, or LDAR, is a program designed for finding and  
14 repairing leaking components. Under this proposal, LDAR  
15 will be used to find and repair leaks of methane at all  
16 types of facilities, including natural gas facilities  
17 which are not covered by most district rules. The  
18 proposal requires daily audio-visual inspections to check  
19 for obvious emission sources, and quarterly instrument  
20 inspections to locate additional leaks that are not easily  
21 seen or heard. We've also included a special category of  
22 components called critical components, which is designed  
23 to address components that require additional time to make  
24 repairs.

25           Under the current proposal, operators could step

1 down to annual testing after five compliant quarters of  
2 testing. However, we will discuss a recommended 15-day  
3 change at the end of this presentation revising this  
4 proposal.

5 --o0o--

6 AIR RESOURCES ENGINEER FISCHER: In addition to  
7 LDAR, we are also proposing emissions monitoring  
8 requirements for underground gas storage facilities.  
9 These requirements are based on the lessons learned from  
10 Aliso Canyon and the need for regular monitoring at these  
11 high pressure concentrated sites. The proposal includes  
12 ambient air monitoring to check for the -- to check the  
13 surrounding air for natural gas emissions as well as daily  
14 or continuous monitoring at the wellheads for the early  
15 detection of leaks.

16 Because each facility is different, we are  
17 proposing requirements that will provide some flexibility  
18 for choosing various monitoring systems and different  
19 types of instruments. The facilities will need to submit  
20 a monitoring plan to ARB for approval.

21 In the event that a monitoring system detects a  
22 leak which is above the specified leak standards, ARB  
23 DOGGR, and local district notification is required.

24 This provision will be taking the place of a  
25 similar provision in DOGGR's emergency storage

1 regulations, as this requires shifts from DOGGR to ARB.  
2 This shift is acknowledged in DOGGR's proposed permanent  
3 regulations, and DOGGR representatives Rob Habel and  
4 Justin Turner are seated at the staff table to respond to  
5 any related questions.

6 --o0o--

7 AIR RESOURCES ENGINEER FISCHER: Natural gas  
8 compressors are used to move gas from production fields  
9 through natural gas pipelines, and they can also be found  
10 at a number of mid-stream facilities including underground  
11 storage facilities.

12 We are proposing testing and emission standards  
13 for both reciprocating and centrifugal compressors, and  
14 repairs or replacement for compressors that are measured  
15 above the specified emission standard. Alternatively,  
16 facilities can capture and control the leaking gas. These  
17 requirements are specifically for seals and rod packings  
18 and are in addition to LDAR.

19 --o0o--

20 AIR RESOURCES ENGINEER FISCHER: Pneumatic  
21 devices use natural gas to control when no electricity or  
22 compressed air is available. In California, the vast  
23 majority of pneumatic devices did not use natural gas.  
24 For those that do, the most common types are continuous  
25 bleed devices, which vent gas on a continuous basis.

1           This proposal requires the replacement of  
2 continuous bleed devices with non-emitting or no-bleed  
3 devices, and the same requirement also applies to  
4 natural-gas-powered pneumatic pumps. Alternatively,  
5 facilities can capture and control the venting gas with  
6 the use of a vapor collection system.

7           All intermittent bleed devices are subject to  
8 LDAR to ensure that they remain sealed when not actuating.  
9 According to our data, these are a small portion of  
10 devices and estimated emissions.

11                   --o0o--

12           AIR RESOURCES ENGINEER FISCHER: Finally, we are  
13 also proposing two different requirements to quantify  
14 emissions from liquids unloading and well casing vents  
15 that are open to the atmosphere. These will require  
16 operators to perform measurements and report results to  
17 ARB annually. Both requirements are designed to collect  
18 additional data for possible future rulemaking activity.

19                   --o0o--

20           AIR RESOURCES ENGINEER FISCHER: The proposed  
21 regulation allows both ARB and the districts to enforce  
22 the standards. However, both ARB and the districts prefer  
23 district implementation because their staffs are local,  
24 more familiar with the facilities, and in many cases are  
25 already inspecting them.







1                   --o0o--

2           AIR RESOURCES ENGINEER FISCHER: Overall, this  
3 proposal results in just over 1.5 million metric tons of  
4 reductions at an annual cost of just over \$22 million, for  
5 a cost effectiveness of about \$15 per metric ton of carbon  
6 dioxide equivalent reduced. These results were determined  
7 while considering annual natural gas savings and computing  
8 the emissions based on a 20-year global warming potential  
9 for methane.

10                   --o0o--

11           AIR RESOURCES ENGINEER FISCHER: In addition to  
12 methane, this proposal also results in statewide emission  
13 co-benefits, including 3600 tons per year of VOC  
14 reductions and over 100 tons per year of benzene, toluene,  
15 ethyl benzene, and xylenes reductions.

16           Due to the design of the proposed low NOx  
17 requirement, we expect an essentially neutral statewide  
18 NOx impact with approximately a half-ton-per-year  
19 reduction occurring in the San Joaquin Valley compared to  
20 current year.

21                   --o0o--

22           AIR RESOURCES ENGINEER FISCHER: Staff completed  
23 a draft environmental analysis, or EA, for the proposed  
24 regulation. The draft EA was released for 45-day public  
25 comment on June 3rd along with the 45-day package.

1           Staff will prepare written responses to all  
2 comments raising significant environmental issues relating  
3 to the draft EA which were submitted during the public  
4 comment period. And we will present the final EA and  
5 written responses to comments on the draft EA to the Board  
6 for consideration in early 2017.

7                           --o0o--

8           AIR RESOURCES ENGINEER FISCHER: I will now  
9 present staff's recommended 15-day changes and next steps.

10                           --o0o--

11           AIR RESOURCES ENGINEER FISCHER: We are proposing  
12 to remove the annual step-down provision in the LDAR  
13 portion of the regulation. This recommendation is based  
14 on information we received since the release of the 45-day  
15 package, including the EPA's removing of a similar  
16 step-down provision in its recently finalized new source  
17 performance standard rules.

18           In addition, at our recent methane symposium,  
19 more research came to light emphasizing the random nature  
20 of super emitter leaks and that more frequent monitoring  
21 is indicated. Finally, there have been other leaks at  
22 other facilities, not of the magnitude of Aliso Canyon,  
23 but which further argue for not stepping down to annual  
24 inspections.

25           We are also recommending 15-day changes to

1 clarify the underground natural gas storage requirements  
2 in response to questions and comments we received from  
3 stakeholders.

4 We are also recommending 15-day changes to  
5 perform cost revisions to incorporate idle wells and  
6 additional uncontrolled tanks that were not included as  
7 part of the original analysis. We also have other minor  
8 clarifications and corrections to the regulatory text.

9 As we continue to work with the Environmental  
10 Justice Advisory Committee and other stakeholders, we may  
11 also develop and propose additional changes.

12 --o0o--

13 AIR RESOURCES ENGINEER FISCHER: Our next steps  
14 include continuing working with the districts on  
15 resources, NOx, and other implementation concerns. We  
16 will also continue to work with the Environmental Justice  
17 Advisory Committee and other stakeholders on any remaining  
18 issues. We plan to return to the Board in early 2017 to  
19 seek final consideration on the adoption of this proposed  
20 regulation.

21 In conclusion, staff recommends approval of the  
22 resolution with the direction to address the 15-day  
23 changes.

24 I will now introduce Alan Abbs, Executive  
25 Director of the California Air Pollution Control Officers

1 Association, who would like to say a few words about the  
2 ongoing collaboration between ARB and the districts.

3 CHAIR NICHOLS: Thanks. Welcome.

4 CAPCOA EXECUTIVE DIRECTOR ABBS: Thank you, Joe.

5 Good morning, Chairperson Nichols and members of  
6 the Board. My name is Alan Abbs and I'm the executive  
7 director for the California Air Pollution Control Officers  
8 Association, representing the 35 local air districts in  
9 California.

10 Thank you for the opportunity to comment on these  
11 regulations. Mr. Fischer and staff did a good job of  
12 laying out the need for the regulation as well as the way  
13 it would be accomplished. And I'd also like to  
14 acknowledge the work of Elizabeth Scheehle and Jim Nyarady  
15 for the work that they've done in collaborating with the  
16 districts on this regulation.

17 As the presentation showed, there are  
18 opportunities for large emission reductions in the oil and  
19 gas sector from the measures proposed: 1.5 million tons  
20 of CO2 equivalents, over 3600 tons of VOCs and over 100  
21 tons of toxic air contaminants per year. In addition to  
22 the greenhouse gas reductions, the regulation provides  
23 local public health benefits, with the reductions in ozone  
24 precursors and toxic air contaminants. Overall, we  
25 support the regulation and the emission reductions that

1 would be achieved.

2           Also, we support greenhouse gas reductions from  
3 these measures that are achieved in ways that also reduce  
4 criteria and toxic air contaminants.

5           The implementation of this rule however is going  
6 to be challenging, and we look forward to working with  
7 staff to translate the regulation into MOUs that define  
8 district responsibilities as well as incorporating current  
9 district permitting and operational methods and  
10 requirements as well as our fiscal requirements.

11           As staff noted, this regulation will add many new  
12 stationary sources, particularly in air districts with  
13 nonassociated gas production.

14           Some districts will be able to incorporate this  
15 regulation into their existing rules and regulations and  
16 some will have to make some very big changes to their  
17 programs. This will require significant investment of  
18 time and money to write permits and modify existing  
19 permits, purchase equipment, train staff, and then  
20 allocate staff for checking compliance at what is going to  
21 be a very widely dispersed stationary source, especially  
22 when you include idle wells into the regulation and  
23 district requirements.

24           These costs may be difficult for districts to  
25 recoup, depending on the number and type of sources and

1 throughput levels of the local operators.

2 But as staff correctly noted, local air districts  
3 enforce stationary source regulations and we would be the  
4 logical choice to enforce this regulation. And so again  
5 we look forward to working with staff to work on the  
6 implementation aspects of this regulation.

7 The proposal suggests an effective date of  
8 January 1st, 2018, to start. And we think this is  
9 reasonable. A regulation isn't any good if it can't be  
10 effectively enforced. And ARB and the districts still  
11 have some pretty significant work ahead as the proposed  
12 regulation moves towards final consideration.

13 January 2018 gives us the time we need to work  
14 through how the implementation would work and the  
15 programmatic changes that districts would need to make to  
16 meet the requirements of the regulation.

17 So thank you for the opportunity to speak on this  
18 item; and we'll have representatives from some other air  
19 districts with oil and gas production to provide further  
20 comments.

21 Thank you.

22 CHAIR NICHOLS: Okay. Further staff comments?

23 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH

24 CHIEF SCHEEHLE: We're done with the staff presentation.

25 CHAIR NICHOLS: Oh, okay.



1 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH

2 CHIEF SCHEEHLE: We're ready to answer any questions.

3 Sorry for the --

4 CHAIR NICHOLS: All right. That's fine. And I  
5 wasn't sure if you had other guests you wanted to  
6 introduce or additional comments.

7 Let's just proceed then to take testimony. I was  
8 handed page 1 of the list of witnesses who's signed up to  
9 speak to us. I believe there's now 32 and counting. So  
10 time to get started.

11 And let's -- just a reminder, the three-minute  
12 rule. I have been asked, I'll say at the outset, to have  
13 a group presentation at the end. Western States Petroleum  
14 Association asked for a combination of four of their  
15 people to testify together; and they've asked for extra  
16 time to do that. And so I've indicated that they could  
17 do -- that they could do that. Just so people are  
18 forewarned.

19 Yes, Senator Florez.

20 BOARD MEMBER FLOREZ: Thank you, Madam Chair.

21 Maybe before the testimony, a question for staff  
22 on flaring and its impact and trade-offs for NOx. I'm  
23 trying to figure out how it -- we have a greenhouse issue  
24 but at the same time we have a NOx issue. I wanted to see  
25 how that -- how staff looked at that and weighed it out.

## OIL &amp; GAS AND GREENHOUSE GAS MITIGATION BRANCH

1 CHIEF SCHEEHLE: Yeah, and this has been a very important  
2 part of our regulatory development. So we do -- as Joe  
3 pointed out, we do have a tiered approach to addressing  
4 any vapor that's collected from tanks. And that  
5 prioritizes non-combustion routes or routes that may  
6 displace natural gas authority used at the facility. And  
7 then if that's not available - because it's not available  
8 at all oil facilities or natural gas facilities - then you  
9 can use a combustion route such as a flare.  
10

11 But what we are requiring is for that to meet a  
12 low NOx standard. So it would be a low NOx incinerator or  
13 some sort of other -- like a microturbine or something  
14 like that.

15 And what that requires is -- in most cases they  
16 might have an existing flare. Those flares would actually  
17 be changed out to meet that low NOx standards or you're  
18 having a reduction from the gas that's already going  
19 through that. So overall you actually end up with a  
20 reduction overall from the tank measure and from the --  
21 from any incineration that does happen. But we are trying  
22 to move people to the non-combustion routes.

23 Also, as pointed out, there is -- San Joaquin  
24 Valley does have a flare minimization plan. And we will  
25 be looking at that and following that and determining, if

1 that does go into place and there's a different scenario  
2 to look at, what would be the impacts of that rule  
3 compared to that scenario. And then we would mitigate  
4 that NOx or work with them on ways to mitigate that.

5 BOARD MEMBER FLOREZ: Thanks.

6 CHAIR NICHOLS: Excellent question. Thank you.  
7 Okay. Let's --

8 BOARD MEMBER EISENHUT: A follow-up --

9 CHAIR NICHOLS: Yes.

10 BOARD MEMBER EISENHUT: Just a follow-up on  
11 the -- on that measurement and mitigation. I would just  
12 request that we -- that you give some attention to  
13 periodic reports back to the Board so that we're able to  
14 follow -- we're able to follow that and the mitigation.

15 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH

16 CHIEF SCHEEHLE: Yes, I think that we can do that.

17 CHAIR NICHOLS: Okay. Good.

18 All right. Now, Morgan Lambert again.

19 Welcome back.

20 MR. LAMBERT: Good morning again. Morgan  
21 Lambert, Deputy Air Pollution Control Officer with the San  
22 Joaquin Valley Air Pollution Control District.

23 Our Executive Director, Seyed Sadredin, asked me  
24 to specifically thank Mr. Corey, who has taken the time to  
25 understand the unique circumstances in the Valley and has

1 taken seriously the concerns that we have had regarding  
2 this proposed regulation.

3           Specifically the potential for NOx from emissions  
4 associated with increased oil and gas flaring activity has  
5 been a significant concern to us. As you are aware, NOx  
6 is a critical pollutant to the District's attainment  
7 strategies for both ozone and PM2.5 emissions and, as  
8 such, we really have no tolerance for additional NOx  
9 emissions in the Valley.

10           And when looking at the potential for increased  
11 NOx emissions, we think it's important both to look at it  
12 from a perspective of where we are today as well as  
13 potential control measures that are included in upcoming  
14 or current State Implementation Plans. And we're  
15 appreciative of ARB's recognition of that in the  
16 presentation and their willingness to work together with  
17 the District.

18           In addition, flaring activities at oil and gas  
19 operations have been an area of great concern within the  
20 Valley's disadvantaged communities, something that needs  
21 to be taken into consideration.

22           That being said, I would like to express our  
23 thanks and gratitude to ARB staff who have worked  
24 diligently with the District to address our concerns and  
25 to make changes to the regulation where feasible to

1 address some of those concerns. We are pleased with ARB's  
2 commitment in the proposed regulation, which we understand  
3 to mean that ARB will work with -- or commit to work with  
4 the District to quantify and mitigate any increased NOx  
5 emissions which may occur as a result of this regulation  
6 in the future. And we at the District are committed to  
7 working collaboratively with ARB staff to do so.

8           Furthermore, the District is committed to working  
9 with ARB to ensure the most efficient and effective  
10 implementation of this regulation. Towards that end, we  
11 are already working with affected stakeholders throughout  
12 the Valley to develop a program to implement the  
13 regulation locally given the permitting and enforcement  
14 infrastructure we already have in place and the expertise  
15 that we have in permitting and inspecting oil and gas  
16 operations.

17           Although we are sensitive to some of the issues  
18 that stakeholders have raised regarding this proposed  
19 regulation, I have come here to express our District's  
20 support for the regulation given ARB's commitment in the  
21 resolution to quantify and mitigate any NOx impacts in the  
22 Valley.

23           And thank you for the opportunity to address your  
24 board today on this item.

25           CHAIR NICHOLS: Thank you very much. As I think

1 what you're commenting and others have indicated, you  
2 know, this is a landmark in terms of the Board's evolution  
3 of trying to integrate our ongoing and -- and  
4 increasingly, I think, focused air quality efforts into  
5 the new greenhouse gas program and making sure that we're  
6 really trying to optimize for both of these things. And  
7 it's a challenge, but I think it's not impossible. And it  
8 looks to me as though things are coming together quite  
9 well from an implementation perspective.

10 Dr. Sherriffs, you wanted to comment?

11 BOARD MEMBER SHERRIFFS: Well, and I just would  
12 want to -- my understanding of how these discussions have  
13 gone. In fact, the gap between what the Valley was  
14 concerned would be produced in NOx through this, in fact,  
15 the staff have worked very hard to figure out ways to  
16 close that gap. And we still don't know what the gap will  
17 be. But I appreciate very much, and it is absolutely  
18 important, that we're committed to measure that, to track  
19 it, and think about how we're going to mitigate it if  
20 there does come to be an increase in the NOx emissions.

21 Because again, very timely that we talked about  
22 the SIP just before this, the District worked very hard  
23 and we're talking 12 tons per day in terms of stationary  
24 sources that the District was able to squeeze out. So  
25 indeed every ton of NOx is very important. So thank you

1 for the hard work on that and the ability to adjust this  
2 to close that gap and maybe eliminate that gap, but  
3 certainly to think about how we're going to mitigate it if  
4 it still exists.

5 BOARD MEMBER SPERLING: Could I ask a clarifying  
6 question on something?

7 CHAIR NICHOLS: Yes, please do.

8 BOARD MEMBER SPERLING: So this is supposed to be  
9 a greenhouse gas regulation, essentially a methane. So  
10 I'm unclear why there's so much discussion of NOx  
11 emissions. I mean, I understand partly some of the  
12 actions might result in NOx. But is that the only reason  
13 we're talking about NOx here? Because otherwise there  
14 should be a whole separate proceeding and rules dealing  
15 with NOx emissions.

16 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH  
17 CHIEF SCHEEHLE: Well, we are trying to ensure that any of  
18 the greenhouse gas reductions we're getting don't have any  
19 impact on criteria pollutants. So that's why we're -- we  
20 have this tiered approach. And we've looked at this as  
21 just -- if there is any impact from the regulation, we  
22 want to make sure we understand that.

23 BOARD MEMBER SPERLING: But any efforts to reduce  
24 NOx -- so it doesn't have anything to do with reducing NOx  
25 from venting or whatever other way, right? Am I correct?

OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH

1 CHIEF SCHEEHLE: Correct.

2 BOARD MEMBER SPERLING: Okay.

3 BOARD MEMBER BALMES: I would just say though,  
4 one of the things I like about our whole approach to  
5 greenhouse gas emissions over the last few years has been  
6 to make sure that we also achieve co-benefits with regard  
7 to other pollutants. And, again, it's one of the things I  
8 like about our work. And so having a separate regulation  
9 for air quality issues other than greenhouse gas  
10 emissions, I don't even like that idea. I like doing  
11 things an integrated way.  
12

13 (Laughter.)

14 CHAIR NICHOLS: Well, we are in a Clean Air Act  
15 world and we do have to do SIPs for criteria air  
16 pollutants.

17 BOARD MEMBER BALMES: I understand that. But  
18 we've been very -- I think this Board should be -- and  
19 staff should be lauded for the fact that we've always  
20 tried to integrate -- especially when it comes to advanced  
21 cars, which Dr. Sperling knows well, we tried -- we try to  
22 integrate climate change benefits with public health  
23 benefits related to air quality.

24 CHAIR NICHOLS: It does require that you be able  
25 to think in two different time frames and two different



1 dimensions at the same time, and that is a challenge. But  
2 I think we're at least making a good effort at it, yeah.

3 All right. Thank you.

4 Ms. Roggenkamp.

5 MS. ROGGENKAMP: Good morning, Chair Nichols and  
6 members of the Air Resources Board. I am Jean Roggenkamp.  
7 I'm the deputy executive officer at the Bay Area Air  
8 Quality Management District.

9 I appreciate the opportunity to come before you  
10 this morning to testify on behalf of the Bay Area Air  
11 District on this important rule this morning.

12 First off I'd like to express our appreciation  
13 for working with Richard Corey and his staff on this  
14 important regulation. It has been a very productive  
15 process and we appreciate it very much.

16 We support ARB's proposed rule. The staff has  
17 articulated the benefits that would occur in terms of  
18 reducing CO2e, VOCs, and toxic air pollutants. And these  
19 reductions are really a very important step towards our  
20 joint goals of improving public health and protecting the  
21 earth.

22 So it will be complementary to the local air  
23 district's regulations to reduce VOCs from these kinds of  
24 facilities and benefit the communities that are near them.

25 The robust process that ARB has undertaken for

1 developing this rule over many years has really been a  
2 very productive process. We appreciate all the workshops,  
3 the communications, the working groups that they've had  
4 with us and other stakeholders.

5           The Bay Area Air District does intend to  
6 incorporate this rule into our local rules, and plans to  
7 work cooperatively with ARB on implementation and  
8 enforcement. We will work with ARB and other stakeholders  
9 and other air districts on the implementation issues that  
10 have been articulated.

11           The rule does provide flexibility for air  
12 districts to be more stringent, and this is something that  
13 we at the Bay Area Air District will explore. Many of the  
14 facilities in our area are smaller than the facilities  
15 that would be regulated under the Air Resources Board  
16 rule, and we will explore whether to include them in our  
17 rule.

18           We look forward to working with ARB on this rule  
19 and other important climate protection and air quality  
20 benefit rules.

21           Thank you so much.

22           CHAIR NICHOLS: Thank you.

23           Mr. Greene.

24           MR. GREENE: Chair Nichols, members of the Air  
25 Resources Board. I'm Larry Greene, the Director of the

1 Sacramento Metropolitan Air Quality Management District.  
2 We too would like to commend the ARB staff, Richard. And  
3 all the work that we've done on this, it's been a long  
4 effort - and we're not finished - but we've made a huge  
5 amount of progress and I think it's been a very  
6 cooperative effort amongst all of us.

7           We support this regulation and we think the  
8 timeline that's been laid out by the staff is a reasonable  
9 timeline. We anticipate, like Bay Area, incorporating  
10 this regulation within our regulations and permitted  
11 sources, so we think we will be able to implement this.

12           We do recognize that some of the smaller  
13 districts and some districts that won't be able to do that  
14 as easily have some issues regarding fees and support --  
15 and paying for the regulatory effort, and we appreciate  
16 ARB's willingness to go ahead and continue discussing that  
17 particular issue.

18           Also, idle wells remain -- continues to be an  
19 issue that we're interested in. There's a lot of them,  
20 and finding them out on -- up in Northern California is  
21 not the easiest thing and it requires a lot of work.  
22 So -- but we both know that and we're going to continue to  
23 work.

24           We support CAPCOA's comments, and we again  
25 appreciate this collaborative effort moving forward and

1 we'll be participating fully in that.

2 Thank you.

3 CHAIR NICHOLS: Thank you.

4 MR. TOBIAS: Good morning, ladies and gentlemen.  
5 My name is Elias Tobias. I'm here on behalf of EDF. And  
6 I'm the founder, CEO, and lead engineer for Safety Scan  
7 U.S.A.

8 We are the specialist invited here. We do  
9 optical gas imaging leak detection, or infrared as it was  
10 called on the suggested technology after Aliso Canyon by  
11 the Emergency Proclamation. So we do just that. We  
12 detect leaks using that technology, we quantify the leaks,  
13 and we help emissions management for LDAR and the  
14 greenhouse gases.

15 I found that recently Colorado University and  
16 Carnegie Mellon University done a study on the ground  
17 5,000 locations -- gas locations throughout the U.S. and  
18 numbers of data last year. They found that the facilities  
19 lose around 100 billion cubic feet a year of gas. That's  
20 serious stuff. And 30 percent of that hundred billion are  
21 vented, are intentional vented gas. The rest is like  
22 fugitive emissions. Being the big leakers, compressor  
23 stations, transmission and storage, and underground  
24 pipelines.

25 The optical gas imaging technology is very

1 accessible. I have the equipment here if somebody wants  
2 to see it on the break. It detects leaks at a very early  
3 stage. A good example I give is -- I always bring a  
4 cigarette lighter with a camera. When I press the button  
5 of the -- just the gas part, the camera's able to pick up  
6 that small of a leak. Its 3 grams per hour or 0.1 ounces  
7 per hour. So it picks up at the very early stage. So the  
8 earlier we pick the leak, it's easier to mitigate or to  
9 fix and avoid shutdowns and things like that.

10 So it's very important that the technology was a  
11 suggested technology on the Emergency Proclamation after  
12 Aliso Canyon.

13 I was here in January and I took -- from a  
14 three-mile distance I took a few videos from the leak  
15 while it was happening. And the first time I turned the  
16 camera on and I look at the image, I thought something was  
17 wrong with the setup, so serious it was, so big it was.  
18 So it was a serious unfortunate event that obviously is  
19 teaching us how to prevent it. And from my studies, it's  
20 probably one of the most serious events of that nature in  
21 the history of our planet.

22 So, yeah, I feel honored to be here to help a  
23 little bit and how we can help, you know, move forward to  
24 a better future on that respect.

25 Being a gas industry, or natural gas, leaks is

1 going to occur. You know, nature is unpredictable. So  
2 it's kind of a utopia to think we're going to have zero.  
3 But we can -- we can actually work towards finding it at  
4 the early stages.

5 And places --

6 CHAIR NICHOLS: That's the buzzer for your three  
7 minutes. I'm sorry.

8 MR. TOBIAS: Well, all right. Well, I appreciate  
9 very much the opportunity, and have a good day.

10 CHAIR NICHOLS: And we do have your written  
11 comments also. So thank you.

12 Elizabeth Paranhus.

13 Hi.

14 MS. PARANHUS: Thank you. My name is elizabeth  
15 Paranhus. I'm an attorney for EDF. I wish to thank the  
16 Board for providing us an opportunity to comment on this  
17 landmark rule and urge the Board to adopt it.

18 EDF has participated in the development of clean  
19 air measures to reduce methane and other natural gas  
20 emissions from oil and gas facilities at both the federal  
21 and the state level.

22 We participated in the development of the first  
23 ever rules to regulate methane from oil and gas facilities  
24 in Colorado in 2014. The proposal before the Board today  
25 surpasses that rule in terms of the scope and the

1 comprehensiveness and the rigor of the requirements.

2           We commend staff on working with a broad range of  
3 stakeholders to propose cost-effective and feasible  
4 requirements. These requirements are critical to ensuring  
5 that ARB meets legislative and gubernatorial objectives  
6 aimed at reducing statewide methane emissions and  
7 achieving other co-benefits as discussed.

8           ARB should not delay in adopting these  
9 requirements and it should not weaken in any way to  
10 proposed requirements. In particular, we strongly urge  
11 the Board to retain the quarterly monitoring provisions  
12 for well sites, compressor stations, and gas processing  
13 facilities; and the daily and continuous monitoring  
14 provisions for underground natural gas storage facilities,  
15 with no provision that allows for a reduction in  
16 inspection frequency to annual.

17           We commend the staff on proposing the removal of  
18 the, quote, step-down provision and urge ARB to approve of  
19 this removal. As the catastrophic leak at Aliso Canyon  
20 and recent leak at McDonald island demonstrate, leaks can  
21 and do pop up unexpectedly, and if not detected and  
22 remediated immediately, can cause significant harm to  
23 public health and the environment.

24           Moreover, as ARB has demonstrated, quarterly  
25 monitoring is highly cost effective. Indeed, per our

1 comments, we believe ARB's cost estimates are conservative  
2 and quarterly instrument-based monitoring can be achieved  
3 at a lower cost than ARB suggests.

4           While we strongly support the rule before today,  
5 there is room for improvement. In particular, we urge ARB  
6 to phase out or prohibit venting from intermittent bleed  
7 controllers. We believe the data demonstrates there are a  
8 significant number of these devices in the state, and if  
9 the emissions are left unaddressed other than by just the  
10 LDAR provision, it -- the significant methane emissions  
11 from those will undercut some of the other reductions  
12 achieved by the rule.

13           Lastly, going forward, new information or  
14 emissions identify -- or identified regulatory gaps may  
15 surface, necessitating further analysis or review. For  
16 example, in 2014 a near-surface waste gas line at an oil  
17 and gas line at an Oil and gas facility in Arvin,  
18 California, leaked for nearly eight months. And reports  
19 indicate that little, if any, requirements existed for  
20 inspection and maintenance of those kinds of gas lines.

21           As ARB moves forward with this oil and gas rule,  
22 pollution instances should be thoroughly reviewed and  
23 revised.

24           Thank you very much. Really appreciate the time.

25           CHAIR NICHOLS: Thanks.



1 MS. BENSON: Hi. My is Elly Benson and I'm an  
2 attorney for the Sierra Club, which have over 145,000  
3 members in California. And in recent weeks over 7,000 of  
4 our members and supporters have signed on in support of  
5 the proposed rule, and urging the Board to improve this --  
6 certain provisions and implement the rule as soon as  
7 possible.

8 First I'd like to submit a disc which contains  
9 the exhibits contained in the joint comment letter that we  
10 submitted with other groups on Monday, and an updated  
11 version of our letter that has those exhibit numbers in  
12 it.

13 I'd like to start by thanking the Board for  
14 proposing a rule that contains cost-effective, technically  
15 feasible mechanisms that will reduce the release of  
16 harmful methane emissions from a broad suite of new and  
17 existing oil and gas facilities.

18 Methane is 87 times more powerful than carbon  
19 dioxide over a 25-year frame. And as the Board is aware,  
20 significant methane directions are necessary for  
21 California to reach its greenhouse gas emission reduction  
22 goals.

23 The draft regulation will also achieve co-benefit  
24 reductions in volatile organic compounds and air toxics  
25 that threaten human health, as has been discussed.

1           My timer doesn't look like it's going up here,  
2 just FYI.

3           We commend the Board for proposing this rule and  
4 urge the Board to adopt it.

5           There are several provisions that we urge the  
6 Board to strengthen before finalizing the rule. These  
7 provisions and suggestions for making them more robust are  
8 explained in detail in the comment letter that I mentioned  
9 earlier. Today I'd like to briefly touch upon three of  
10 them.

11           First, leak detection and repair. Given the  
12 geographic and temporal unpredictability of leaking  
13 equipment, one of the most important aspects of an LDAR  
14 program is the frequency of inspections. Studies strongly  
15 support at least quarterly inspections using modern leak  
16 detection technology to identify leaking equipment.

17           We strongly support the staff's suggested  
18 modification to remove this step-down provision, because  
19 neither the percent nor number of leaking components is an  
20 accurate predictor of a facility's emissions performance.  
21 We thus urge the Board to finalize a quarterly inspection  
22 requirement and to remove the provisions that allow for  
23 operators to reduce inspection frequency to an annual  
24 basis.

25           We further urge the Board to lower the leak --

1 initial leak threshold to 500 parts per million.

2 Our second, compressor emissions. We support the  
3 Board's approach to control emissions from compressors,  
4 both in the production and non-production segments,  
5 through either vapor collection systems or through  
6 requirements to measure emissions of the vent point, and  
7 to repair when those emissions exceed thresholds.

8 We urge the Board to reduce the flow-rate  
9 threshold that triggers repair or replacement of rod  
10 packing or seals. Currently the threshold for repair is  
11 much too high, as detailed in our written comment. A  
12 standard set in the 0.4 to 0.5 standard cubic feet per  
13 minute range would be cost effective and would more  
14 appropriately balance the need to reduce some of those  
15 emissions and the social costs of those emissions while  
16 keeping costs reasonable.

17 Lastly, pneumatic equipment, which Elizabeth from  
18 EDF just covered pretty well and I'm running out of time.  
19 So I think instead I will just say thank you for your  
20 propose and for the opportunity to comment today.

21 Thanks.

22 CHAIR NICHOLS: Thanks.

23 MR. MANN: Chairperson Nichols, Board members,  
24 staff of ARB, concerned citizens. My name's John Mann.  
25 I'm with the 360-International M<sup>2</sup>. And this is Charles

1 Mann with Charles Mann Company, a distributor of mine on  
2 the West Coast.

3           We're here -- or we support your regulations. We  
4 agree with your reductions. We think it's a great --  
5 great address. And we've worked there for the last three  
6 years with the EPA making several petitions for  
7 reconsideration with reduction, trying to address their  
8 reductions for emissions and VOCs. And after those three  
9 years they directed us to the California Air Board  
10 regulations, said that they're more progressive, they're  
11 aggressive, and they actually direct them and they monitor  
12 them. And so that they're the people who actually help  
13 them. They monitor them. They help them to direct -- the  
14 direction that they're going to go and the way they move  
15 the country. And they set -- they actually set -- help  
16 them set the regulations.

17           So that's why we're here today. Joe Fischer's  
18 been very helpful to help us do that.

19           We actually came today to show you a product that  
20 we're actually using and we've had for last five years.  
21 That is a packing leak detector. It actually -- is the  
22 device that actually monitors 24 hours a day. Very cost  
23 effective, very inexpensive for the operators to use. And  
24 it actually measures and actually detects the leakage of  
25 the packing on compressors. Any reciprocating compressor,

1 no matter how large, no matter how big, for gathering  
2 midstream or upstream.

3           And it can be monitored 24 hours a day. Not just  
4 one time. And you don't have to worry about whether the  
5 packing starts failing at that point.

6           So we have the material here. We also have  
7 brochures and we are on line.

8           While I do understand the operators' concern and  
9 the cost, and I do understand their frustration. What  
10 they're trying to do is focus on what they really have to  
11 do. What we're trying to do is help focus that direction  
12 and get direct from California Board to see if we can help  
13 them focus that direction and make all those things come  
14 together so we can help them focus their costs, so we can  
15 help lower the reduction of the methanes, the VOCs, and  
16 make it all one package.

17           So we thank you for your time. We thank for your  
18 efforts. And we hope that we can move forward and help  
19 you to achieve your goals.

20           Thank you.

21           CHAIR NICHOLS: Thank you.

22           MS. DEROHANIAN: Good morning. My name is Cheri  
23 Derohanian. I happen to work at Auto Club. But that was  
24 just my business card where I work full time. I'm  
25 actually a member of the Porter Ranch Neighborhood

1 Council. But I speak to you today as a parent and a  
2 resident of Porter Ranch.

3 I have a personal story that how it affected my  
4 family and my community. I have two daughters that attend  
5 Porter Ranch Community School. During the first week  
6 after a gas blowout, they were running the mile and nobody  
7 even knew about this gas leak. So notification systems  
8 from the gas company or any other companies where there's  
9 a leak detected is first and foremost.

10 Then it took about two months for the school  
11 district to decide, "Oh, we'll close the schools." So the  
12 school my daughters attend, there's 1100 students and  
13 Castlebay, an elementary school, there were 800 students.  
14 So 1900 students had to relocate, and the schools were  
15 moved and it was very, very inconvenient.

16 In addition, out of the 30,000 residents reside  
17 in Porter Ranch, approximately 15,000 relocated their  
18 households. That's not only stressful, it's awful, it's  
19 an inconvenience. Loss of personal liberty and happiness  
20 and our way of life was taken away for four months over  
21 the holidays, Thanksgiving, Christmas, my kids' birthday.  
22 They couldn't even have a decent party because all the  
23 kids were dropping out of school like flies.

24 So the stress of the uncertainty of a four-month  
25 gas blowout catastrophe is unacceptable. This is bad for

1 public health. This is bad for our air, our climate,  
2 everything.

3           And what we seek is that you strengthen the rule  
4 and do not allow that step-down that could possibly go to  
5 a year. Three months of rigorous testing is necessary and  
6 it must be implemented. Any kind of lax rules, lax  
7 testing, lax any of the above is unacceptable. This is  
8 not only true for the Aliso Canyon, for Porter Ranch and  
9 surrounding communities, but for our state and our  
10 country. We must maintain public health. We must allow  
11 residents of all these areas to enjoy their clean air and  
12 their way of life. Again the four months of stress and  
13 uncertainty was unacceptable and this silent catastrophe  
14 is just horrific.

15           So I again thank the Chair and the entire Board  
16 for considering this and for listening to my story.

17           CHAIR NICHOLS: Thank you. We will make sure  
18 that you're not listed as representing the Auto Club of  
19 Southern California.

20           MS. DEROHANIAN: Just resident.

21           CHAIR NICHOLS: Okay. Thank you.

22           MR. CARMICHAEL: Good morning, Chair Nichols,  
23 members of the Board. Tim Carmichael with Southern  
24 California Gas Company.

25           First of all, let me say we have been working

1 with the staff for more than a year on this proposal. We  
2 support the objectives laid out by the staff. And we've  
3 submitted extensive comments on details, identifying  
4 several concerns with the details, and we're going to  
5 highlight four of those.

6 I'm joined today by one of my colleagues, she's a  
7 technical expert in this area, Karen McInnis, and she'll  
8 speak next.

9 But we want to highlight four areas of concern  
10 and request that the Board direct the staff to spend more  
11 time on each of these with the affected industries to work  
12 through some of these details.

13 Those areas are:

14 The storage monitoring proposal, which, as we  
15 identified in our comments, was only really fleshed out in  
16 the most recent version of the proposal. And there has  
17 not been adequate time to engage the staff on the details,  
18 and we request more time on that.

19 Technical and process feasibility concerns, cost  
20 estimates. The -- karen will provide more details on  
21 this. But our cost analysis actually found costs three  
22 and a half to four times what you see in the staff  
23 proposal. So not a small difference but a very  
24 significant difference. And that's fleshed out in our  
25 comments, but Karen will speak to that a little bit more.



1           And then I think the staff did a good job of  
2 noting the multiple layers of regulation, the number of  
3 agencies engaged in this area, either today or in the  
4 process of developing regulations, from the local air  
5 districts to the PUC, the Department of Oil and Gas. And  
6 our request is a direction from the Board to the staff to  
7 take the time to ensure that there's strong coordination  
8 between all of those agencies so we're not having multiple  
9 regulations that don't add additional benefit but may add  
10 significant cost without additional benefit.

11           I think -- oh, the staff 15-day changes noted  
12 that they were going to take time to work on  
13 clarifications on the storage monitoring provisions. We  
14 respectfully believe that it's more than clarifications  
15 that are needed. And we would like Board to direct the  
16 staff to work with our industry on that segment in  
17 particular.

18           Thank you very much.

19           MS. McINNIS: Good morning. My name is Karen  
20 McInnis, and I'm here representing Southern California Gas  
21 Company, as Tim, my colleague, stated.

22           So the first item I wanted to speak to you on is  
23 regarding the economic analysis that was published with  
24 this last draft on May 31st. And we performed an  
25 extensive comparison between that analysis and did our

1 own, and what we found is, first of all, there were some  
2 calculation errors, just simple mathematical calculation  
3 errors in the published analysis. And then we found, just  
4 to read some numbers, that 9 million versus \$36 million  
5 for the economic analysis CARB prepared for the LDAR  
6 portion of the rule - this is only for the leak detection  
7 and repair portion, one segment of the rule. So it's  
8 almost four times what CARB stated versus what we believe  
9 the costs truly would be.

10 So we recommend that staff is directed to go back  
11 and prepare a more complete analysis, more comprehensive,  
12 especially because as a public utility, we have to go  
13 towards the CPUC for our rate case authority, and this  
14 would be a reference document.

15 The second item is regarding process feasibility.  
16 And as a utility, we are required to provide service. And  
17 so system availability and reliability are a major  
18 concern. And we believe that the way that the language is  
19 currently proposed, that even though there is a critical  
20 component definition and a repair delay provision, it does  
21 not accurately or adequately meet our needs to ensure that  
22 our system will not be impacted by the repair timelines as  
23 represented in the rule.

24 We want to ensure that we can serve our customers  
25 reliably safely, and so we once again direct -- or ask

1 that you can provide direction to staff to work with us.  
2 We definitely would be pleased to work with modifying the  
3 language to meet both of our needs.

4 There are other rules in existence which have  
5 repair delays that can be referenced. EPA's Quad O(a),  
6 Colorado's regulation has some repair delays, as well as  
7 some local air districts.

8 So we believe a successful solution can be  
9 reached.

10 And my final comment is regarding the technical  
11 aspects of the rule. There are several monitoring and  
12 screening detection devices that are referenced within the  
13 rule, and we believe that in the storage monitoring area  
14 that the technology as represented is not -- has not been  
15 proven to meet and address what's been requested. So we  
16 ask that that be looked at as well.

17 And I'm out of time, so thank you.

18 CHAIR NICHOLS: Thanks.

19 MR. BEGTSSON: Good morning, Chair Nichols and  
20 members of the Board. I'm Nathan Begtsson here to  
21 represent Pacific Gas and Electric Company today.

22 PG&E is strongly committed to providing safe,  
23 affordable, and reliable natural gas to our 15 million  
24 customers. And on that note, I just want to say that we  
25 agree with SCG's economic analysis. Anytime that an

1 analysis like that is performed, we worry about the cost  
2 impacts to our customers.

3           The second note I have today is a process note  
4 also related to the storage requirements. As Director  
5 Corey noted earlier, the other requirements in this rule  
6 have been under consideration for two years, if not more.  
7 And the new storage requirements were added in on the May  
8 31st version of this document, and I think they're  
9 important enough to warrant a little more time and  
10 discussion with staff. So we ask you to direct staff to  
11 do that.

12           And my final point today regards the concept of  
13 the regulation itself. As you just heard from Karen,  
14 there are critical component exemptions in the current  
15 regulation, and PG&E strongly supports those because it's  
16 critical to the safe and reliable operation of the natural  
17 gas system. However, not every component that's going to  
18 leak will be a critical component. And the way the rule  
19 is structured with the aggressive repair timelines, there  
20 may be cases where blowdowns are required; and that would  
21 result in greater emissions even than leaving the leak be  
22 for even a fairly long period of time.

23           And so what this is really about is PG&E does  
24 support the goals of this regulation and believes that the  
25 natural gas system can perform in a more

1 environmentally -- have higher environmental performance  
2 and lower emission. It's about structuring enough  
3 flexibility in the rule to allow an operator to bundle  
4 repairs, to delay repairs when it makes sense in order to  
5 avoid the kinds of emissions that would be associated with  
6 blowdowns.

7           So as it stands, the repair requirements are very  
8 thorough, they're very fast. What we're asking for is the  
9 kind of delay provisions that would provide the kind of  
10 flexibility to make sure this regulation can reach its  
11 ultimate goal, which is emissions reductions.

12           And I want to thank staff for their openness to  
13 working with us so far. It's just sort of a challenging  
14 question because there are so many different kinds of  
15 components, it's a complex system, and that  
16 one-size-fits-all sort of -- this amount of time for this  
17 kind of leak is not necessarily the right answer.

18           So we look forward to and hope to continue  
19 working with them on this, and we're working very hard to  
20 come up with language that would make sense.

21           The final thing is: The Method 21 U.S. EPA  
22 reference measurement system, which is  
23 concentration-based, which is the sort of baseline for  
24 this rule because it's the measurements upon which the  
25 repair timelines are driven, there has been demonstrated

1 that there is a fairly low correlation between the  
2 concentration measurements and actual leak rates, and this  
3 is something we'd like the Board to direct staff to take  
4 into account going forward in the future. We realize it's  
5 important for now and cannot be changed, but volume-based  
6 measurement probably is the right way to go about this in  
7 the future.

8 Thank you.

9 CHAIR NICHOLS: Okay.

10 MR. RIVERA: Good morning, Board members and  
11 staff. My name is Willie Rivera. I'm here on behalf of  
12 the California Independent Petroleum Association, CIPA.  
13 CIPA represents nearly 500 independent crude oil and  
14 natural gas companies as well as service and supply  
15 companies operating throughout California. So I'm here in  
16 the Sacramento area.

17 Our association's goals include highlighting the  
18 economic contributions of our members, fostering the  
19 efficient utilization of California's petroleum resources,  
20 and striking a balanced approach between environmental  
21 protection and resource development.

22 You should have received a letter earlier today.  
23 I just wanted to highlight a few items from that letter.  
24 I have some of my members here in the audience as well who  
25 will speak more specifically on some items of concern to

1 our members.

2 Our letter focused on four main sections, four  
3 categories related to the implementation and enforcement  
4 of the rule before you, mandatory reporting  
5 inconsistencies, the need for reasonable standards. And  
6 there are some specific technical concerns related to  
7 vapor control and flaring that you'll hear about as well  
8 from some of our members.

9 You know, I think this part is clear, and we get  
10 it and I understand it. The ARB's wish to have this  
11 implemented at the local level I think is the best thing.  
12 It's the most efficient use of resources, and they know  
13 their areas better than anyone else. However, you know,  
14 we believe there's little clarity issues on that front how  
15 that will work, how it will be enforced. You know, we  
16 believe it's critical that it be made clear who that lead  
17 regulatory body is going to be. You know, right now I  
18 think there's a possibility for double jeopardy; there's a  
19 possibility for two agencies to be enforcing the same  
20 rule, which I think adds undue burdens to our industry,  
21 and certainly deviates from regulations you folks have  
22 considered and passed in the past.

23 I think there's a lot of work that can be done to  
24 better incorporate local priorities and incorporate local  
25 control. I think in the process of developing MO --

1 memorandums with the local air districts, I think that  
2 process needs to be public. I think stakeholders should  
3 be a part of that process. We should be at the table.  
4 And that has happened. Your staff has done a great job.  
5 We appreciated the fact they came down to Bakersfield and  
6 joined stakeholders for a day to answer our questions and  
7 learn from our industry and hear our concerns. And we  
8 hope that that continues in this 15-day package you folks  
9 will consider. We look forward to working with you  
10 through that process.

11           And thank you for your efforts up and to this  
12 point.

13           MR. LOVLEY: Good morning. My name's Tim Lovley.  
14 I'm with MacPherson Oil. And I was really happy to hear  
15 that we're at harmonization today, because I think that's  
16 important for us when we're looking at the different  
17 agencies, the different people that are engaged in this  
18 process, the different shareholders. When we get to this  
19 regulation when it actually hits the ground, that  
20 harmonization is going to be important to us for lack of  
21 reducing duplication, the issue of having multiple or  
22 different types of testing requirements to be done such as  
23 a flash analysis.

24           Additionally, I've got a couple other items here  
25 that I wanted to talk about real quick.



1           The gauge tanks were recently added. These are  
2 tanks that are hundred barrels, they're portable. Some  
3 are stationary. These are used for measuring one well at  
4 a time. These are very low emission especially in the  
5 heavy oil fields. And I think there's more opportunities  
6 to discuss this with the staff when the outgoing  
7 discussions we've had.

8           Additionally, the timeline, the 180 days, seems  
9 unrealistic. If you go through the permitting process,  
10 you have the engineering process, the study process,  
11 before you even get to a permitting process. Then  
12 somewhere along the line you actually get to spec out and  
13 order your materials. That timeline is very short.  
14 You're looking at -- what we try to do is plan out a year  
15 ahead. If we have an issue that we've got to make a quick  
16 response to, we need more than 180 days to respond.

17           Additionally, the downtime issue. We run like  
18 most businesses, try to keep our inventory spares to  
19 critical parts. If we have compressors in our facilities  
20 that go down, 30 days is sometimes too short. Some of  
21 these equipment require specialized parts, especially when  
22 you start talking about mechanical seals that takes  
23 significant amount of time to put together especially if  
24 they're designed for a specific compressor. These are  
25 something that manufacturers don't even have on the shelf.

1           Additionally when you talk about compressors, I  
2 think there's a difference in the opportunity to harmonize  
3 the regulation for the specific portion of the industry  
4 for this. To understand the difference between production  
5 where our compressors may run at different rates, low  
6 flow, high flow, the gas use for the filtration is much  
7 different than it is in the PUC gas system. And it has a  
8 much higher failure rate when you look at dry seals in the  
9 compressors.

10           Finally, the casing vapor was a recent addition.  
11 I think there's more opportunities there to discuss with  
12 staff how the casing vapor actually works; where you see  
13 casing vapor; when it's not there; how it's affected by  
14 the difference within the reservoir, the pump, the pump  
15 stroke - a lot of activities there - the pressure, so that  
16 they can understand that.

17           Again, I think there's a lot of opportunities to  
18 harmonize a regulation for the specific industry along  
19 with the different regulatory bodies.

20           Thank you.

21           MR. HORNE: Good morning, Chair Nichols and the  
22 Board. Man, is this imposing or what. I'm just first  
23 time doing this, so I appreciate the opportunity to speak  
24 with you.

25           My name is Randy Horne, and I represent NAFTEX

1 Operating Company. We're a small producer for oil and gas  
2 in the Bakersfield area.

3 Thanks to staff for what they've done so far,  
4 working with us as industry.

5 What I'd like to talk about is that I agree with  
6 many of the comments that have been made previously with  
7 the speakers with LDAR. We're a small operator. We were  
8 24-people strong last year. We're now down to eight  
9 people. And we're trying to operate and, trust me, we are  
10 environmentalists as we operate. But this LDAR  
11 requirement, particularly with the step-down provision  
12 proposed, could impact us on the heavy oil side. That  
13 would almost be 300 percent increase in cost to us. So we  
14 ask that staff continue working with us with regards to  
15 reviewing that step-down provision, as well as looking at  
16 some of the other requirements noted earlier in the  
17 presentation.

18 And, Joe, thank you very much. That was really a  
19 nice presentation.

20 As we continue through this effort, our industry  
21 as Willie has indicated, looks forward to working with  
22 you, continuing to improve it, and try to minimize the  
23 duplicative regulations that we are working through at  
24 these points.

25 So I appreciate again for the opportunity.

1 Apologize for the nervousness. But we look forward to  
2 working with you again, staff.

3 CHAIR NICHOLS: It wasn't so bad, was it, really.  
4 (Laughter.)

5 CHAIR NICHOLS: You did fine. Thank you.

6 MR. BAIZEL: Chair Nichols, Board. My name is  
7 Bruce Baizel. I'm the energy program director for  
8 Earthworks. We're a national nonprofit that works with  
9 communities to mitigate the impacts of energy development  
10 and mineral development. And we've submitted written  
11 comments, which you'll see.

12 What I'd like to do is focus a little bit on the  
13 unique niche that we occupy. In the NGO world we're one  
14 of the few that actually has the gas imaging technology.  
15 And so for a number of years now we've been working with  
16 communities, including some here in California, to look at  
17 oil and gas sites, looking for emissions using that  
18 technology.

19 I would say that in addition to California we  
20 worked in 12 other states, looked at several hundred  
21 sites; and regardless of the state of the operator or, in  
22 general, the type of facility, we find that at  
23 three-quarters of the sites we look at there are unplanned  
24 methane emission leaks.

25 So it's not that any particular operator or any

1 particular state is different. We find it's pretty  
2 consistent across those states.

3           Specific to California we've looked at well  
4 sites; we've looked at gas processing plants; we've looked  
5 at your operation waste pits; we've looked at storage  
6 fields, including some of the images on Aliso Canyon are  
7 from our thermographers. We don't -- we don't see a  
8 difference between those facilities really. It's pretty  
9 consistent.

10           We're very pleased that you in fact are stepping  
11 out -- we were a party in the Colorado 2014 methane  
12 rulemaking on oil and gas. We're pleased that you're  
13 stepping out with both existing and new sources. We think  
14 that's very significant. For the people that we work  
15 with, it's the sources that are there right now that are  
16 the problem, and your rule would address that.

17           I think the other comment I would make in terms  
18 of our experience, we've done work down in the L.A. Basin  
19 as well and urban settings. And a couple of the images  
20 that we submitted, we did one from Kern County, the Lost  
21 Hills Oil Field, and then one from the Murphy oil field;  
22 and in both cases, whether it's a large site or a small  
23 site, you can still see those emissions coming off. One's  
24 from a vent, the other was from storage tanks. So we  
25 really encourage you to continue on.

1           We saw on the 15-day change the removal of the  
2 step-down provision. In our experience, over time, we  
3 would encourage you to take that out. It doesn't  
4 really -- we don't see that it will provide the incentive  
5 to actually find leaks. We, in fact, think it will  
6 provide a perverse incentive to not find leaks. So we  
7 encourage staff -- you to take that recommendation.

8           Thank you.

9           CHAIR NICHOLS: I'm going to prolong time for  
10 just a second. Because I did read your written testimony,  
11 and I wasn't sure what you were proposing when you talked  
12 about citizen science, in addition to your comments about  
13 transparency and making information available and so  
14 forth.

15           Did you have some additional idea about how that  
16 would work?

17           MR. BAIZEL: Well, there's suggestion in the  
18 regulation that there would be a web portal for reporting  
19 information. And as part of that, we presume there would  
20 be submission by operators when they do -- when they bring  
21 in a paid contractor, which many of them do in other  
22 places, to the leak detection reports. We think you  
23 should also allow for certified operators with OGI to  
24 actually submit directly in. And we've done that with  
25 partner community groups with some of the air districts

1 here in California. But as long as you meet the  
2 requirements for certification and recordkeeping and so  
3 on, we think you could tweak the rule to allow for  
4 submission of that when you have a certified operator.

5 CHAIR NICHOLS: I see. Okay.

6 MR. BAIZEL: That would be our suggestion.

7 CHAIR NICHOLS: Yeah. I appreciate that. Thank  
8 you.

9 MS. HERRERA: Gloria Herrera. I'm here today to  
10 support the developing proposed regulation.

11 CHAIR NICHOLS: Could you move the microphone  
12 closer.

13 Thank you.

14 MS. HERRERA: I'm Gloria Herrera. I'm here today  
15 to support the developing proposed regulations. As  
16 resident of Kern County, our health and well-being has to  
17 be over any industry. There is so many respiratory  
18 problems, asthma problems, cancer problems due to all  
19 these contaminants.

20 I will appreciate that you listen to our  
21 petitions. Thank you. Have a nice day.

22 MS. TRUJILLO (through interpreter): Good  
23 morning, everyone. My name is Felipa Trujillo, and I  
24 would like to -- I'm part -- I'm a member of the community  
25 of Shafter where I feel that the air is most contaminated.

1 I am petitioning to stop fracking, please, because we do  
2 have some cancer and asthma issues.

3 And I also support solar energy.

4 Thank you very much to all.

5 CHAIR NICHOLS: Thank you. I wish we had  
6 simultaneous translation, but we don't. So please ask if  
7 people can pause.

8 Thank you.

9 MR. FLORES: Good morning to all the Board  
10 members. My name is Juan Flores. I'm a resident of deny  
11 Kern County, Delano as a matter of fact. And today will  
12 be a landmark date once you guys approve these new  
13 regulations.

14 For many decades, residents of Kern County have  
15 stand in front of this Board and many other boards asking  
16 to protect their well-being and their health. What the  
17 residents prior to me just mentioned, it's completely  
18 truth. It's so sad to go to these communities and that  
19 your children say, "I already know the steps that I have  
20 to take when I have an asthma attack. I know that I need  
21 to relax first and then I need to wait for an ambulance  
22 and go to the emergency room." And this is all because of  
23 the poor air quality that we have.

24 And it is also a landmark today that the oil  
25 industry will accept that they have responsibility -- and



1 the gas industry as well -- that they have responsibility  
2 over these burdens that are affecting the health of our  
3 community members. It was about time.

4 In Kern County at least we have been doing oil  
5 drilling for 117 years. And today would be the first day  
6 that we're going to regulate and maintain emissions coming  
7 from this industry. Long overdue. Long overdue.

8 Today I'll be happy to go back to my community  
9 and to finally speak to community members and say, "We  
10 don't have excuses anymore. Now we have a clear plan to  
11 come and help and protect your health."

12 Thank you so much.

13 MS. STANO: Good morning and thank you. My name  
14 is Madeline Stano and I'm an attorney with the Center on  
15 Race, Poverty, and the Environment in Delano, California.

16 I'm offering public comment on behalf of our  
17 clients, some of whom you just heard from; in addition,  
18 residents from Bakersfield, Arvin, Delano, Shafter, Wasco,  
19 and Lamont in Kern County.

20 We offer our support for this essential rule to  
21 protect some of our state's most overburdened residents  
22 from life-threatening pollution, overwhelmingly residents  
23 where low income and residents of color; as the Chair  
24 stated earlier, in disadvantaged communities.

25 We support the removal of the step-down provision

1 as stated in the proposed 15-day changes.

2           Additionally, we respectfully request that CARB  
3 release an annual report to the legislature with aggregate  
4 emissions data from owners and operators collected under  
5 this rule and data from CalEnviroScreen for the purposes  
6 of prioritizing inspection and enforcement of this rule in  
7 the areas most overburdened by pollution in the state.

8           Thank you very much.

9           MS. DECENA: Good morning, members of the Board.  
10 My name is Vinai Decena. I'm a registered nurse and a  
11 public health nurse, and I'm representing the Alliance of  
12 Nurses for Healthy Environment, any of the national  
13 organization comprised of nurses who are concerned about  
14 health issues that are related to environmental exposures.

15           We are engaged in nursing education, practice,  
16 research, and advocacy. Our members include  
17 hospital-based nurses, school nurses, public health  
18 nurses, occupational nurses and academic nurses.

19           California already experiences the worst air  
20 quality in the nation, with more than 95 percent living in  
21 areas with unhealthy air, according to the California Air  
22 Resources Board. Currently approximately one out of every  
23 three days is considered unhealthy for ozone population.  
24 This is based on California's own health-based air quality  
25 standards in areas such as the South Coast Air Basin and

1 the San Joaquin Valley.

2           Also according to the California Air Resources  
3 Board, the annual health impacts of exceeding state  
4 health-based standards for ozone and particulate matter  
5 already includes 6,500 premature deaths, 4,000 hospital  
6 admissions for respiratory disease, 3,000 hospital  
7 admissions for cardiovascular disease, 350,000 asthma  
8 attacks, 2,000 asthma-related emergency room visits,  
9 elevated school absences due to respiratory conditions  
10 including asthma, reduced lung functions growth rates in  
11 children.

12           Leaking methane gas is yet another contributor to  
13 our already challenging air quality. In combination with  
14 other pollutants, methane causes ground-level ozone, which  
15 is associated with the inflammation of the lungs and  
16 exacerbation of asthma conditions in children and adults.

17           Patients exposed to methanes have reported  
18 incidents of dizziness, fainting, headaches, fatigue,  
19 numbness in the limbs, muscle tremors, memory loss, and  
20 irritability. Some other generalized symptoms are hearing  
21 loss, sleep disturbance, nose bleeds, increased blood  
22 pressure and decreased mental performances.

23           As nurses, we see panicking parents as they bring  
24 their children to the emergency room in asthma crisis. We  
25 see frail elderly people whose lungs have been ravaged by

1 years of breathing bad air.

2 We must take all the precautions possible to  
3 reduce the conditions that causes ground-level ozone that  
4 contribute to these lung conditions.

5 Methane is also an extremely powerful greenhouse  
6 gas that contributes to global warming and climate change.  
7 We are already seeing many of the health impacts of  
8 climate change, and it is critical that we mitigate any  
9 and all contributors to public health crisis.

10 In California, we must have the strongest methane  
11 standard possible. It must include tight schedules for  
12 regular inspections. Given the aging gas and oil  
13 infrastructure in California, we urge the Board to remove  
14 the step-down.

15 We need -- thank you.

16 CHAIR NICHOLS: We do have your written testimony  
17 also. It's quite extensive. So thank you.

18 Okay. We're on to page 2.

19 MS. SCHROEDER: Hi. Good morning. My name is  
20 Jaclyn Schroeder and I'm here with Moms Clean Air Force.  
21 I'm here just as a concerned parent.

22 When I was first invited to come today, I almost  
23 quickly declined because I have three young children at  
24 home. But that's exactly the reason I decided to come,  
25 because I am their mother first.

1           So being a mother first to me is being that voice  
2 for my children. Being a mother first is making sure I  
3 provide a healthy environment for them. I am a mother  
4 first today by speaking up for my children's health.

5           So thank you for taking this important step in  
6 addressing the methane pollution from oil and gas  
7 operations. And I urge you to move forward with your  
8 proposal while considering two important changes.

9           One, remove the step-down provision which would  
10 allow operators to shift to less rigorous monitoring  
11 requirements. This would create a perverse incentive to  
12 avoid finding and reporting leaks and less of a reason to  
13 avoid fixing them quickly.

14           Second, the current proposal pushes  
15 implementation timeline by a year, from January 2017 to  
16 January 2018. Our families can't afford to wait till  
17 2018.

18           I currently own a home in Porter Ranch, where the  
19 Aliso Canyon gas blowout was. I have again three kids, a  
20 son who's five-years old and twin daughters that are two  
21 and a half. My family, community, and I understand the  
22 direct impacts of methane pollution, especially the  
23 exposure to co-pollutants that leak alongside methane  
24 pollution from oil and gas development.

25           I grew up in the San Fernando Valley in Porter

1 Ranch and decided to raise my family there as well.  
2 However, never did I realize that we lived on top of one  
3 of the largest gas storage reserves in the United States  
4 that was not regulated properly, and what that could mean  
5 for the health of my family.

6           October 23rd in Porter Ranch the largest methane  
7 gas blowout in U.S. history was reported. Ironically a  
8 month earlier my daughter Emma, 22 months at the time, was  
9 sent home from Kaiser with a nebulizer with -- that's an  
10 at-home breathing treatment. She began showing signs of  
11 asthma and continued to show these signs over the next few  
12 months.

13           October 31st, Halloween, unbeknownst to us the  
14 leak had been reported a week earlier. My children that  
15 evening were sniffing, complaining of headaches and  
16 fatigue. There was an odd odor in the air, and my kids  
17 barely lasted 30 minutes trick-or-treating.

18           November 5th we took our daughters to Kaiser  
19 again because they were having trouble breathing. Just  
20 days later, my daughter Grace developed really bad eczema  
21 on her cheeks.

22           December 10th, my girls were back at Kaiser and  
23 diagnosed with asthma with acute exacerbation. These are  
24 real impacts of oil and gas development and the hazards  
25 that can come from the co-pollutants leaked alongside

1 methane pollution. Our most vulnerable chil -- are little  
2 lungs and bodies.

3 I just encourage you to strengthen the proposed  
4 rule.

5 Thank you very much.

6 CHAIR NICHOLS: Thank you.

7 MS. RUSSELL: Good morning. I'm Loni Russell.  
8 I'm here today as a concerned citizen, a daughter, and an  
9 aunt. I'm a member and community organizer for Moms Clean  
10 Air Force, California, a community of over 80,000  
11 California parents fighting for clean air. And on behalf  
12 of our members, I want to thank you for the opportunity to  
13 testify today.

14 I thank you for taking this important step and  
15 addressing methane pollution from oil and gas, and  
16 respectfully urge you to move forward with your proposal,  
17 while considering two important changes:

18 One, the current proposal includes a step-down  
19 provision which would allow operators to shift to less  
20 rigorous monitoring requirements, which would create a  
21 perverse incentive to avoid finding and reporting leaks  
22 and a reason to avoid fixing them quickly.

23 And, two, the current proposal pushes the  
24 implementation timeline by a year, from 2017 to 2018. Our  
25 communities cannot afford to wait.

1           The scientific record and public health  
2 co-benefits demonstrate that cutting methane pollution  
3 would provide strong public health protections for  
4 Californians and, most importantly, for our children. I'm  
5 no stranger to poor air quality, growing up in the San  
6 Fernando Valley, where my family still resides and many of  
7 my relatives still suffer from asthma.

8           Nearly one in every 10 school children in the  
9 U.S. has asthma, asthma being the number one health issue  
10 that causes kids to miss school.

11           Co-pollutants that leak along with methane lead  
12 to ozone formation or smog. Numerous studies have found  
13 elevated smog in regions with oil and gas development  
14 largely due to emissions of VOCs and the nitrogen oxides  
15 from these activities.

16           Standards that reduce methane emissions from oil  
17 and gas development will simultaneously reduce emissions  
18 and formation of health-damaging air pollutants, including  
19 VOCs, hazardous air pollutants, particulate matter and  
20 ozone.

21           So reducing all these would reduce exposure of  
22 nearby communities to these pollutants and the subsequent  
23 risk of health effects, including respiratory morbidity  
24 and premature death.

25           A large body of scientific research indicates



1 that oil and gas development associated with health  
2 impacts, empirical studies have found evidence of the  
3 following:

4 1) Higher reported health symptoms per person  
5 among residents who live close to gas wells.

6 2) Greater prevalence of adverse birth outcomes,  
7 including congenial heart defects, neural tube defects,  
8 and low birth weight for infants born to mothers who live  
9 in high densities of natural gas development.

10 Children, pregnant women, and the elderly are the  
11 most susceptible to these negative health impacts from oil  
12 and gas pollution. Let's keep our most vulnerable safe  
13 with a strong standard.

14 Thank you for this opportunity to testify.

15 MS. MOELLER: Good morning to the Board. My name  
16 is Jennifer Avila Moeller, and I come before you today as  
17 a mother, a concerned citizen of Porter Ranch, and a  
18 Southern California resident. Thank you in advance for  
19 allowing me a few brief moments to tell my story.

20 I am the mother of three beautiful children five  
21 and under. My son Mason is five and a half; Madison, two  
22 and a half, and Miles, nine months old.

23 I can remember October 2015 like it was  
24 yesterday. It was two weeks after I had given birth to  
25 our third child, Miles. I returned home from a

1 much-needed outdoor walk when I noticed a letter taped to  
2 my front door on Southern California Gas Company  
3 letterhead notifying me of the biggest Aliso Canyon  
4 blowout known to date. Naturally I panicked. I was  
5 horrified and stricken with more questions than I could  
6 fathom.

7           Baffled and looking for answers, I immediately  
8 relocated our family to a distant city away from our  
9 current dangerous and hazardous living environment.  
10 Prioritizing my family's health was of utmost importance,  
11 and this mamma bear was not taking any chances of  
12 jeopardizing my children's health or potential exposure to  
13 developing future illnesses.

14           Because of this catastrophe I urge you to address  
15 high levels of methane pollution in efforts to controlling  
16 oil and gas operations by considering the following  
17 options:

18           Fixed frequency inspections remove incentives to  
19 shift to loose annual inspections. A substantial portion  
20 of methane emissions across the supply chain come from  
21 leaks. That's why a leak detection and repair, LDAR,  
22 program that requires operators to regularly find and fix  
23 leaks is a straightforward cost-effective way to reduce  
24 oil and gas methane emissions. CARB's proposed rule  
25 initially requires quarterly monitoring of facilities but

1 allows for a step down to annual depending on whether  
2 operators find leaks.

3           Also, the implementation timetable needs to be  
4 faster. Recent amendments push back to the implementation  
5 of the rule by a year. California communities need  
6 reductions sooner than that.

7           Did you know that children's lungs continue to  
8 develop after birth. Children breathe faster and spend  
9 more time outside than adults. That children are  
10 especially more vulnerable to air pollution in organs,  
11 much like a child's brain and reproductive system will  
12 continue to develop post birth. You can see why my sense  
13 of urgency to immediately relocate my family to safer and  
14 cleaner grounds was nothing less but my main priority when  
15 high levels of methane along with other cancer-causing  
16 chemicals such as benzene were being emitted into the air  
17 due to a lack of regularly regulated aging infrastructure  
18 in an oil-gas storage facility.

19           Living in a dense and overly populated city such  
20 as Los Angeles where driving vehicles is a commonality,  
21 smog and air pollution is already a heavy and weighted  
22 ongoing issue, let alone allowing for the release of high  
23 levels of methane into the air.

24           As parents and grandparents, I leave you with  
25 this question: What would you have done?

1 Thank you for your time.

2 MR. PAKUCKO: Hi. My name is Matt Pakucko. I'm  
3 the president and co-founder of the group called Save  
4 Porter Ranch, a nonprofit citizens education and action  
5 group; and I live right next to the blownout Aliso Canyon  
6 well.

7 So I know firsthand the effects that methane and  
8 its components have on people. And I'm saddened and real  
9 tired of hearing and seeing daily, still, after the  
10 blowout was supposedly stopped, of nosebleeds, rashes,  
11 headaches, asthma, and other respiratory and breathing  
12 problems from people that live near that facility.

13 So what I'm concerned about, as much as we rely  
14 under the new regulations, there's much reliance on local  
15 agencies to enforce the regulations. What's missing is  
16 clear enforcement and penalties for noncompliance.

17 In the case of Aliso Canyon, our local AQMD  
18 failed to do anything substantial even in the biggest  
19 blowout in, what, U.S. history. They gave a slap on the  
20 wrist, saying they have little authority over the  
21 operation of the facility, and issued that a temporary  
22 abatement order, which did little more than to monitor the  
23 problem, didn't actually stop anything.

24 So who has the authority to do something, to  
25 actually stop emissions? To actually shut down a repeat

1 or major offender that keeps on violating?

2           Apparently nobody, as we found out in the Aliso  
3 Canyon situation. Every agency claimed that it's not  
4 their jurisdiction to actually stop the emissions. It  
5 took, you know, a State of Emergency declaration by the  
6 Governor. Is that what it's going to take when there's an  
7 ongoing offender? Fines and more fines by our local  
8 agencies doesn't stop emissions from going into our lungs.

9           So what has worked and subsequently uncovered  
10 more massive failures by SoCalGas, including finding that  
11 many, many, a huge number of their wells failed basic  
12 integrity inspection, is shutting down the facility. The  
13 penalty of a facility shutdown must be included and  
14 enforceable by the State. This is the one thing that has  
15 been proven effective in getting the industry to do the  
16 right thing and actually stop the emissions.

17           And regarding the step-down thing, a step-down --  
18 I'm glad you guys are trying to make it quarterly, because  
19 at our facility alone continuously leaking after all the  
20 scrutiny that's going on there.

21           March 18th, Termo, another operator, was busted  
22 by DOGGR illegally venting methane.

23           April 13th, another mysterious gas release. 43  
24 complaints to the AQMD.

25           April 16th, Crimson Resources, another operator,

1 oil spill and gas release.

2           July 2nd, another pipeline leaking by SoCalGas.  
3 Our own real-time monitoring system shows spikes in  
4 methane every day.

5           So, yeah, we need quarterly, at least, if not a  
6 real-time monitoring fence line around all these  
7 facilities, because this is just -- this is just one. We  
8 got 13 of those in the State. And this place is already  
9 under tremendous scrutiny and it's still spewing. So we  
10 need to get a little more stringent on that one.

11           Thank you very much.

12           CHAIR NICHOLS: Came right under the buzzer too.  
13 That's great.

14           MR. MAGAVERN: Good morning. Bill Magavern with  
15 the Coalition for Clean Air. And this is a rule that, as  
16 you know, has been in the works for a long time. I think  
17 your staff have done an excellent job of holding public  
18 workshops and listening to the input of a number of  
19 parties. And now I think it's time for you to take this  
20 first step and hope that the second step will happen early  
21 next year so that we can get this rule into effect.

22           It's important I think nationally and  
23 internationally. As you know, methane is a very important  
24 short-lived climate pollutant. And it's also important  
25 for the health of our communities. As you've heard from

1 people who live in Porter Ranch, who live in the San  
2 Joaquin Valley, these oil and gas facilities have a lot of  
3 impacts on people who live near them. And this rule will  
4 help to reduce some of the volatile organic compounds,  
5 some of the air toxics that are coming out of these  
6 facilities.

7 As you've heard, the proposal does very well in  
8 terms of cost effectiveness and also does provide benefits  
9 in addition to just reducing the emissions of methane.

10 And on the methane, I think it's very important  
11 that this rule does use the 20-year time frame for  
12 estimating global warming potential. And given the  
13 urgency of the climate crisis, it's very important that  
14 this Board continue to look in terms of 20 years or fewer  
15 rather than the extenuated 100-year lifetime.

16 We're glad to see that there are other  
17 requirements for vapor collection and for NOx reduction.

18 And what's particularly important in the staff  
19 proposal is the removal of the step-down for the leak  
20 inspection. As you've heard, it's important to be  
21 consistent with U.S. EPA, and to recognize that annual or  
22 even semiannual inspections are not frequent enough. We  
23 do need to have the quarterly inspections.

24 Given the urgency that we've talked about, we do  
25 hope that this rule will be implemented as soon as

1 possible. I know they still have some steps to go through  
2 with your final approval and also with OAL, but we're  
3 hopeful that some of it could be implemented before  
4 January 1st of 2018, which is a year and a half away.

5 And also, we're supportive of any efforts to try  
6 to get additional resources to the air districts to help  
7 them to enforce this important rule.

8 Thank you.

9 CHAIR NICHOLS: Thanks.

10 MR. HECTOR: Hello. My name is Jason Hector.  
11 You can put me down as a Porter Ranch resident. And --

12 CHAIR NICHOLS: I think you stepped ahead of your  
13 turn. Keith Nakatani was next.

14 MR. HECTOR: Sorry about that.

15 MR. NAKATANI: Thank you.

16 Good morning. Keith Nakatani. I'm with Clean  
17 Water Action. Our mission is to protect the environment,  
18 health, and economic well-being of communities. We're a  
19 national organization with over a million members.

20 First we'd like to thank the Air Resources Board  
21 for the methane regulations. But given the magnitude of  
22 the problem, we urge you to strengthen the regs, as you've  
23 heard from several speakers.

24 I think it's also important to highlight that the  
25 methane emissions are not only a huge environmental



1 problem, but they're also a huge public health issue. I  
2 was really glad to see my colleagues from the Central  
3 Valley and also the Porter Ranch residents highlighting  
4 the public health impacts.

5           So Aliso Canyon of course is something that  
6 everyone knows about. But what is less well known is that  
7 almost five and a half million people in California live  
8 within one mile of an oil or gas facility. That's almost  
9 14 percent of the State's population. So the nausea, nose  
10 bleeds, dizziness, asthma, skin rashes, and other  
11 afflictions that people near Aliso Canyon experienced are  
12 experienced by residents of other communities on a regular  
13 basis.

14           For example, the town of Lost Hills, which is  
15 about 40 miles from Bakersfield, northwest of Bakersfield,  
16 is situated immediately adjacent to the Lost Hills Oil  
17 Field, which is the sixth largest oil field in California.  
18 So it's a huge facility.

19           If the Board members have not taken a tour down  
20 to Kern County - I'm sure some of you have - I would urge  
21 you to do so. To say that it looks other-worldly is a  
22 major understatement.

23           As Lost Hills is immediately adjacent -- is  
24 immediately east of the oil fields and the prevailing  
25 winds blow from the west, the noxious odors blow through

1 town on a regular basis. And so the residents, who are  
2 predominantly low income and Latino, regularly suffer from  
3 those afflictions that I mentioned before. Again, almost  
4 five and half million Californians live within a mile of  
5 an oil or gas facility.

6 Reducing methane emissions is an environmental  
7 issue, but it's also an issue of fairness and justice.  
8 Please keep this foremost in mind as these proceedings go  
9 forward.

10 Again the proposed regulations are a good start.  
11 But you need to do more to strengthen them.

12 Thank you.

13 CHAIR NICHOLS: Thank you.

14 Okay. It's your turn now, Mr. Hector.

15 MR. HECTOR: Thank you. My name is Jason Hector,  
16 Porter Ranch of residents. I was asked to speak on behalf  
17 of our community by Moms Clean Air Force. I want to thank  
18 them. I want to also thank -- it's an honor and pleasure  
19 to speak in front of the Board here.

20 And I want to tell you I'm a long-time resident  
21 of Porter Ranch. I'm a husband, a father of an amazing  
22 three and a half year little girl. I'd taken care of my  
23 elderly grandmother for over a decade. She was 98 years  
24 old and went through this gas leak with us together.

25 Or I -- number one, I want to say that the

1 step-down provision, I agree with staff, that should be  
2 removed so they can get leaks fixed quickly. Number two,  
3 the time frame should be as quick as possible. I know  
4 some industry folks that are complaining about that. But  
5 if they would have been doing the preventative maintenance  
6 that they knew about, you know, they're aware all of these  
7 facilities were in shambles and they could have been doing  
8 this a long, long, long time ago. So stop bellyaching  
9 about it.

10           During the massive gas blowout I personally  
11 experienced severe headaches, nose bleeds, blood in my  
12 phlegm, lethargy, sick feeling, extreme allergy-like  
13 symptoms. My daughter had difficulty breathing and other  
14 sickness symptoms for a long time, even after we  
15 relocated. My first severe symptoms started after being  
16 outside and exposed to the methane blowout for several  
17 hours. I suffered from a severe headache and my wife felt  
18 very dizzy. After speaking with public health officials,  
19 we left our home, checked into a hotel. My 98-year-old  
20 grandmother was relocated as well. Unfortunately when we  
21 returned to our home to pick up clothes and mail and  
22 things like that, we'd get sick.

23           I'm very concerned about the health effects of  
24 children who live and go to school near oil and gas  
25 facilities.

1           We still don't know the chemicals they may have  
2 been exposed to since they haven't been -- they've been  
3 deemed confidential and proprietary. Once moving back  
4 oily residue was found in the parks; and since, we haven't  
5 returned to those areas.

6           I'm concerned about the concept of storing gas  
7 underground. It's a flawed concept in my eyes. There's  
8 not a steel scuba tank underground to ensure containment  
9 of this very high pressure reservoir. Also, how can we  
10 confirm there are not leaks coming up from this reservoir?  
11 We're talking about geologic formations here. And I  
12 submitted for the record the fault lines that run through  
13 Aliso Canyon. How can we be sure that the gas is not  
14 moving up through the reservoir, through the ground and  
15 through the water as it reaches the surface?

16           And I submitted a lot of data for you to review  
17 because I'm making testimony to the South Coast AQMD  
18 regarding the leak detection programs. Just a few quick  
19 suggestions. NASA and JPL have drones that they're  
20 working on, they're mobile, for monitoring methane. I  
21 think this needs to be incorporated, along with the LI-COR  
22 vehicle which you are probably all familiar with, the  
23 mobile methane monitoring vehicle. We need that vehicle  
24 on site daily at Aliso Canyon and other facilities too  
25 that have nearby communities.

1 Thirdly, I think they should develop an "I smell  
2 it" application where people in communities once they  
3 smell it they can hit the app and send it right to where  
4 it needs to go.

5 Thank you very much.

6 CHAIR NICHOLS: Thank you.

7 Les Clark.

8 Take your time. It's okay.

9 Good morning.

10 MR. CLARK: Madam Chairman, good to see you;  
11 Board members. My name's Les Clark. I'm with the  
12 Independent Oil Producers Agency. Represent a lot of the  
13 mom-and-pop operators in the Kern County area.

14 I have some concerns with the reg. But we've  
15 been working with your staff to address a lot of those  
16 concerns, and I'm appreciative of that, and we'll continue  
17 to do so. A lot of work to be done.

18 I think one of my biggest concerns is -- now,  
19 you've addressed it, but I still want to make a point and  
20 that's the registration as far as who's going to be  
21 running this program. Is it going to be the Air Resources  
22 Board or is it going to be the local air district?

23 I went through this about -- about 12 -- 10, 12  
24 years ago on registration. And I'll tell you at that  
25 time, it was confusing. No one knew who was on first

1 base. So no matter what happens, it needs to be clearly  
2 defined as far as I'm concerned.

3 And we don't want to be, like you said earlier,  
4 double jeopardy as far as who's actually enforcing the  
5 rule.

6 I'd also like to mention some of the words that  
7 most people ignoring, and that's technically feasible and  
8 cost effective. And I think as we go through this  
9 regulation, those two -- or that phrase needs to be  
10 considered.

11 As you know, in Kern County we're over the last  
12 month -- or year and a half, we're probably around 3,000  
13 jobs lost in the oil industry.

14 And what this regulation will do will add to that  
15 cost of producing a barrel of oil. So that means --  
16 that's called lifting cost. So that means there are  
17 probably more jobs lost for that. So I want to make sure  
18 everybody knows that. Everybody talks about health. I'm  
19 with it. But I live in an area too right next to an oil  
20 field in Taft, California. In fact, I think I'd probably  
21 be considered an EJAC recipient myself, I've lived there  
22 so long. But there was a gas-like coast right by my  
23 place, so -- but I would just caution and let's use some  
24 common sense as we develop this regulation.

25 I appreciate the time to be here. Thank you.

1 CHAIR NICHOLS: Thank you.

2 Okay. I think we have now arrived at the group  
3 presentation. Is this -- okay, we have four more and then  
4 we are finished with the witness list.

5 MS. PITCHER: Good morning, Chair Nichols. The  
6 three speakers behind me do acquiesce their three minutes  
7 to me. So there'll just be one speaker.

8 Good morning, Chair Nichols and members of the  
9 Board. My name's Jenifer Pitcher, and I'm a life-long  
10 resident of Bakersfield, and I represent the Western  
11 States Petroleum Association. WSPA is a nonprofit trade  
12 association representing companies that explore for,  
13 produce, refine, transport, and market petroleum and  
14 petroleum products in California and four other western  
15 states.

16 WSPA and WSPA member companies as key  
17 stakeholders have worked extensively with ARB staff for  
18 well over a year in the development of the methane  
19 regulation. Staff has accompanied us in the field to  
20 observe voluntary testing that WSPA members conducted on  
21 circulation tanks in the rule development process.

22 From the beginning of the rule development  
23 process we have emphasized the importance of ensuring that  
24 the methane regulation recognizes existing control  
25 requirements and does not unnecessarily impose duplicative

1 requirements on operations. In that regard, it is  
2 important that the final regulation be consistent with  
3 current, successful local, state, and federal air quality  
4 regulations.

5 On Monday, July 18th, we provided extensive  
6 comments to your Board and staff. WSPA's concerns with  
7 the rule as currently written are centered around:

8 ARB's focus on insignificant emission sources;  
9 questionable emissions estimates; proposal of nonexistent  
10 control technologies; duplicative requirements with other  
11 regulations; and the increasingly compressed timeline for  
12 implementation.

13 So my comments today will summarize the following  
14 key issues that need to be resolved:

15 The first, significant source of methane  
16 emissions; secondly, circulation tanks; third, gauge  
17 tanks; fourth, leak detection and repair, or LDAR; and,  
18 five, the compliance schedule.

19 So first, for insignificant sources of methane  
20 emissions. As WSPA has previously stated in our previous  
21 written comments, we believe that this rule unnecessarily  
22 focuses on insignificant emission sources, like  
23 circulation tanks and gauge tanks.

24 For example, circulation tanks have an average  
25 methane emission of 26 pounds per tank per event. To put



1 that into context, 26 pounds of methane is about 10  
2 percent of the annual emissions of natural gas consumption  
3 used in a two-person household, and there's more than 12  
4 and a half million households in California.

5 WSPA does not believe the ARB's focus on small  
6 sources of methane emissions, such as circulation tanks  
7 that are a total of 72 metric tons of methane statewide,  
8 is efficient or necessary to achieve the statewide 40 to  
9 45 percent methane reduction goals.

10 Secondly, circulation tanks. ARB is proposing  
11 control requirements for circulation tanks beginning in  
12 2020. As noted in our comments, we remain concerned that  
13 there are no feasible control technologies currently  
14 available that can achieve the requirements to be able to  
15 meet 95 percent control efficiency, including disposal -  
16 and I want to emphasize the disposal - of the methane  
17 without the use of supplemental fuel and/or that can be  
18 disposed of in a safe manner.

19 So for -- to point out to Senator Florez's  
20 question earlier about the NOx, we cannot have flares  
21 without supplemental fuel because it's a low quality of  
22 gas and it's noncombustible -- expected to be  
23 noncombustible according to our studies. So essentially  
24 we have no compliance mechanism, and we addressed this in  
25 our comment letter. So I urge you to read that section.

1           And, Dr. Sperling, this also addresses your  
2 concern from earlier.

3           While there are ideas and concepts that ARB staff  
4 presented to you today, right now they are just that; they  
5 are ideas and concepts which have not been proven that  
6 they will work without compromising worker safety, which  
7 is always our number one concern.

8           We would also point out that these concerns were  
9 not addressed in the Environmental Assessment. And that  
10 is in the event that no technology meets the proposed  
11 requirements by January 1, 2020, operators would  
12 essentially have no viable compliance options to comply  
13 with the 95 percent control requirements and would have no  
14 choice but to shut down.

15           ARB must consider all potential scenarios and  
16 allow operators alternative compliance mechanisms for all  
17 potential sources beyond 2020. Therefore, we recommend  
18 ARB revise the section on circulation tanks to allow the  
19 continued use of best management practices beyond 2020 if  
20 no control technology is developed.

21           Without such clarifying language in the  
22 regulation, the language as written would prohibit  
23 hydraulic fracturing after 20 -- after January 1, 2020.  
24 We do not believe the NOx gap is closed.

25           So, Chair Nichols, we were just basically asking

1 to be -- for this to be clarified in the rule that if such  
2 technology is not developed by 2020, that we would  
3 continue to use best management practices until that  
4 technology is developed.

5           Gauge tanks are another small source of methane  
6 emissions, representing less than half a percent of ARB's  
7 estimates for separator and tank systems. These tanks  
8 were not mentioned or discussed in any of the previous  
9 versions of the rule, in ARB's economic impact analysis,  
10 the standardized regulatory impact analysis -- or  
11 assessment, or the SRIA, or the draft environmental  
12 assessment.

13           We are concerned with the last-minute addition of  
14 this source category without conducting any feasibility  
15 studies or economic impact analysis associated with  
16 requiring vapor recovery systems on these tanks.

17           We have included in our comments technical data  
18 and information about our concerns on this issue.

19           In addition, we also urge you to review our  
20 comments in regards to the separator and tank section of  
21 the regulation and request ARB consider and incorporate  
22 our proposed recommendations.

23           The fourth, the leak detection and repair. While  
24 we appreciate staff's efforts working with us on the LDAR  
25 requirements and the goal of ensuring that implementation

1 of the LDAR program is as efficient as possible; i.e.,  
2 having one inspection program, we remain concerned with  
3 this section. As written, it still will result in two  
4 sets of inspections; two programs; and two record-keeping  
5 requirements, one for the local APCD, one for the ARB, as  
6 the programs differ so much in details.

7           It appears that a staff objective of recognizing  
8 existing district programs will not be achieved. Also, as  
9 currently written an LDAR program will be required for  
10 equipment that in practical use or practical application  
11 does not have the potential to emit methane.

12           The LDAR requirements in the proposed regulation  
13 will present significant difficulty for owners and  
14 operators to find enough competent contractors to perform  
15 and correctly document inspections; not to mention the  
16 additional staff time it will take from both the operators  
17 and ARB staff or APCD staff should you defer  
18 implementation to the districts.

19           In addition to these concerns, we noted staff's  
20 recommendation to remove the step-down. We do not support  
21 this. APCDs in California have a long history of LDAR  
22 programs and we look forward to working with staff on that  
23 and on this proposed recommendation.

24           Lastly, the Board approved -- the final Board  
25 approval of the rule appears to be scheduled for early

1 2017, which was pushed back significantly from the  
2 original intended adoption date. Well compliance  
3 deadlines of January 2018, this leaves 35 air districts in  
4 California less than nine months to develop, refine,  
5 receive, and consider comments and finalize their own  
6 rules in order to implement this regulation the ARB will  
7 have been working on for over two years. As you know, the  
8 districts are bound by certain statutory processes that  
9 will most likely not be able to be completed in the time  
10 frame allotted in this rule. The compliance deadlines in  
11 the rule should be extended to allow time for APCDs to  
12 develop rules to implement the new regulation and for  
13 operators time to comply.

14 We do support most of staff's recommendations as  
15 listed in Attachment A. We also urge the Board to include  
16 certain clarifications as discussed and our recommendation  
17 on the circulation tanks.

18 WSPA and our members thank you for the  
19 opportunity to comment. I urge you to review our comments  
20 we've submitted on this last go-round or any of the  
21 comments on the technical justification for arguments, and  
22 we look forward to continue to work with staff and  
23 management prior to the next hearing. Thank you for your  
24 time today. I am available for questions, as are our  
25 technical experts.

1 Thank you.

2 CHAIR NICHOLS: Okay. And you now have spoken  
3 then for all of the group?

4 MS. PITCHER: That's all of it, yes.

5 CHAIR NICHOLS: Great.

6 MS. PITCHER: Thank you.

7 CHAIR NICHOLS: Thanks, and appreciate your  
8 detailed comments.

9 We do actually have one additional late sign-up  
10 here. So a representative from PSE Healthy Energy.

11 And this is the last witness.

12 MS. PISTEY-LYHNE: Good afternoon, Chair Nichols,  
13 commissioners. My name is Daisy Pistey-Lyhne, and I'm  
14 with PSE Healthy Energy.

15 We're here today to submit comments on this  
16 regulation. And, first of all, we are submitting these  
17 comments on behalf of PCE Healthy Energy, a national  
18 energy, science, and policy institute that supports the  
19 adoption of responsible evidence-based energy policies  
20 that aim to protect the climate, public health, and the  
21 environment.

22 We are very pleased that these regulations are  
23 moving forward, both in light of the Aliso Canyon gas leak  
24 disaster, the recommendations of the California Council on  
25 Science and Technology's independent scientific study of

1 well stimulation completed last year, and the national  
2 commitment made by the Obama administration to reduce  
3 methane leakage from the oil and gas sector by 40 to 45  
4 percent by 2025.

5 We strongly support CARB's proposed standards for  
6 crude oil and natural gas facilities and especially  
7 appreciate your leadership in proposing these standards  
8 simultaneously for both new and existing sources. These  
9 will be strong regulations and will be leading the nation.  
10 And we encourage swift implementation of these standards  
11 to mitigate climate change and protect the health of  
12 Californians.

13 We would like to see some improvements to these  
14 proposals to ease public participation in the regulatory  
15 process, especially with respect to the LDAR program as  
16 described below. First of all, we would like to see CARB  
17 not take a step-down approach, as staff has recommended,  
18 to enforcement. CARB should maintain a consistent  
19 standard for inspection frequency. Under this proposal,  
20 failing to discover leaks can lead to ease requirements  
21 and less frequent inspections. And this is flawed,  
22 because the absence of a leak reveals nothing about the  
23 probability of a future leak.

24 If failing to detect leaks can result in reduced  
25 requirements for inspections, companies are incentivized

1 to encourage less rigorous inspections. Operators may  
2 find it in their best interests to not find leaks rather  
3 than repair them. This reproach may set a poor  
4 regulatory precedent as methane leakage is regulated in  
5 other states and at the federal level and for regulations  
6 of other pollutants.

7 If addition to these regulations, we also urge  
8 CARB to engage in community scale air quality monitoring  
9 to ensure that communities exposures to air toxics  
10 attributable to oil and gas development are not elevated  
11 beyond thresholds for health.

12 We also recommend that CARB consider the  
13 implementation of minimum surface setbacks, as recommended  
14 in the CCST independent scientific study of well  
15 stimulation completed last year.

16 We applaud your attention to underground storage  
17 with special monitoring requirements. And we are  
18 conducting a nationwide study of best practices on gas  
19 storage facilities currently. The proposal to have the  
20 ability to remotely access readings from the continuous  
21 monitoring of ambient air from underground natural gas  
22 storage facilities by 2018 will be important.

23 Sorry.

24 CHAIR NICHOLS: Thank you. Your time's up.

25 MS. PISTEY-LYHNE: Okay. Thank you.



1 CHAIR NICHOLS: Thank you.

2 Okay. That concludes our witness list, so we can  
3 close the formal record at this point and proceed to some  
4 Board discussion here. Maybe we can just start off if  
5 anybody has any specific questions that they want to ask  
6 of the staff at this point or ask staff to respond to any  
7 of the comments.

8 Ms. Berg.

9 VICE CHAIR BERG: Just to get us started, could  
10 staff go over the process once again from this time going  
11 forward, what you're going to be looking at, kind of what  
12 direction you're taking. That might be helpful in  
13 formulating some of our questions up here.

14 SENIOR ATTORNEY SEGALL: Sure. I'll started,  
15 Vice Chair.

16 Our plan going forward is to continue many of the  
17 collaborative processes we've already been undertaking  
18 with stakeholders and members of the public in the air  
19 districts. So we'll be exploring with CAPCOA and air  
20 district staff appropriate memoranda of understanding to  
21 help clarify implementation and enforcement, as you heard  
22 from today. And we'll also be working with many of the  
23 technical stakeholders, environmental justice groups, and  
24 members of the public on many of the technical issues  
25 you've heard about. So you'll see that reflected in a

1 15-day package when it comes back to you.

2 CHAIR NICHOLS: Yes, Supervisor Serna.

3 BOARD MEMBER SERNA: Thank you, Chair Nichols.

4 There's a question of the economic analysis as it  
5 related to the LDAR that was mentioned by one of the  
6 speakers; and it sounded to me like there was a pretty  
7 distinct noticeable difference of opinion there in terms  
8 of the actual impact. I'm wondering if Emily can maybe  
9 chime in and maybe give us an idea of where you think  
10 maybe that difference of opinion -- what the genesis of  
11 that is.

12 CHIEF ECONOMIST WIMBERGER: Yes. No, I think  
13 it's really important to get the numbers right to the  
14 extent that we can. So we will be taking a careful look  
15 at the analysis that was done.

16 There were a few different pieces that were done  
17 on the economic side. As you've heard, this has been sort  
18 of a lengthy process to get the regulation through. So  
19 there was an addition -- an initial SRIA. There was an  
20 original macro-economic analysis that was submitted to DOF  
21 I think in April of last year. And then that was recently  
22 revised to reflect all the changes that this regulation  
23 has undergone.

24 So we do want to make sure that the numbers are  
25 right and that we are looking at all of the right pieces.

1 We were -- we're happy to work with the different  
2 stakeholders to make sure that what they're seeing -- if  
3 they have better data, we want to use that better data.  
4 We do want to get these numbers right.

5 BOARD MEMBER SERNA: Thank you.

6 CHAIR NICHOLS: Yes, Professor Sperling.

7 BOARD MEMBER SPERLING: You know, like many, I'm  
8 very alarmed by what's happening with climate change, and  
9 I'm a strong advocate of many policies and regulations.  
10 But I have to say, kind of looking at it big picture, I am  
11 somewhat apprehensive about this whole set of regulations.

12 We are talking about really a small source --  
13 relatively small source. We're talking about four percent  
14 of the methane, which is about 20 percent of the total.  
15 So we're talking about less than 1 percent of the problem.  
16 And then we're talking about a huge number of small  
17 sources. So that 1 percent is really thousands of smaller  
18 sources.

19 And then I hear from CAPCOA about the difficulty  
20 of adopting and enforcing all of these regulations. So  
21 I -- I'm a little queasy about this overall thing.

22 But to give it a positive twist, you know, given  
23 that we've gotten this far, I would suggest -- I would  
24 kind of urge that we really think really deeply about what  
25 are the really big problems, the big sources, and stay

1 focused on that and try to do things that really are cost  
2 effective and are going to have a big impact. And there  
3 are failures. There's the Aliso Canyon example. But  
4 that's not -- as I understand it, would not have been  
5 prevented by anything that we're proposing here.

6           And so -- you know, so that's one principle  
7 that -- if we can use.

8           The other principle is -- it's more of a  
9 question -- is, do we need to be really leading on this so  
10 much? I mean, this is not -- this is a greenhouse gas  
11 regulation. It's a global problem. It's not a health  
12 problem. Yes, I understand there can be small amounts of  
13 co-pollutants, but it's essentially a greenhouse gas  
14 regulation, and EPA -- as I understand - so I'm not an  
15 expert in this - EPA is moving in the same -- is going to  
16 be adopting rules for these same sources at least in a  
17 general sense.

18           So I don't know that there's -- so I think it's  
19 more that we should think about this going forward with,  
20 you know, the kind of regulations we do and the policies  
21 we do. We have limited staff, limited resources; you  
22 know, we can be imposing a lot of costs. So a note of  
23 caution.

24           CHAIR NICHOLS: You know, your comments, I  
25 probably give you the factual background, but come to kind

1 of a different conclusion.

2 I have lived through the experience of the whole  
3 leak detection problem and early days of working on VOC  
4 regulations where we were worrying about valves and  
5 flanges and floating roof tanks and things. There's a few  
6 of us around who still remember all of that.

7 By focusing on that issue, we did really move the  
8 whole state of the art and the state of technology around  
9 these facilities. And, yeah, at the time, it wasn't --  
10 the leaking wasn't worth it to the companies to fix it.  
11 This was a product there for them to really, you know,  
12 care about recapturing. And in the end, they began to  
13 realize that this was something that they were going to  
14 have to pay attention to, and the state of housekeeping  
15 improved enormously as a result of it. And to a big  
16 extent, this a housekeeping issue that we're dealing with.

17 I mean it's expensive and annoying to have to  
18 look all the time for leaks. But what we see is that  
19 there's a huge amount of leaking going on relative to the  
20 total amount of the product.

21 So, you know, the alternative -- and there have  
22 been people who have suggested that this is the correct  
23 alternative -- if you really want to look at the big  
24 picture and the biggest cost effectiveness, get rid of the  
25 product, switch to something else that doesn't leak. I

1 mean, that's the answer - just use less of it. And then,  
2 lo and behold, there's a lot less leaking.

3           Because whatever is out there is going to leak to  
4 some extent, and we're not going to be able to prevent a  
5 hundred percent of it. So you're right on that point.

6           I just -- I think that obviously there's  
7 a -- there's a question here about, you know, how perfect  
8 we can be. But I do really like the new emphasis on the  
9 public side of this information, because living in Los  
10 Angeles where we have old wells -- I'm not talking about  
11 the current storage facilities. There's only a couple of  
12 those. I'm talking about abandoned facilities out there  
13 in communities as well as all kinds of still small  
14 mom-and-pop type operations going on, the public when they  
15 find out about these things oftentime become fixated on  
16 them and, you know, to the level of really having health  
17 issues just associated with the anxiety of living near  
18 some of these facilities.

19           And people need to know what's going on. They  
20 need to be able to assess what's happening and to know  
21 that there is at least somebody looking at the problem,  
22 and making sure that they have access to that information  
23 and to know that the standards are being maintained.

24           So unfortunately, I don't think we have any  
25 option of just not doing it at all. And the question is,

1 if we're going to do something, you know, how do we do it  
2 as -- in as pointed a way as possible.

3 And Supervisor Roberts has something to say on  
4 that point, I know.

5 BOARD MEMBER ROBERTS: Thank you, Madam  
6 Chairwoman.

7 You know, as somebody who has trouble  
8 understanding the plumbing in my own house, to look at the  
9 complexity of all these valves and all of that stuff is --  
10 I have to admit is a little bit beyond me. But I do know,  
11 when you have a leak, you fix it. So in that sense, it  
12 seems to me that there's some good reason to move ahead on  
13 this.

14 I was concerned and I think with a point that was  
15 already made in terms of the -- seems a wide discrepancy  
16 on the economic analysis; and I understand staff's going  
17 to address that.

18 There was one other point that was made, and I  
19 think it might have been made a couple times, and I think  
20 it might have been Tim Carmichael that made it, and he  
21 referred to an effectiveness because of coordination  
22 between efforts of agencies. And I hope staff will dig  
23 into that and find what's being referred to and -- we  
24 don't need inefficiencies that drive the cost without any  
25 benefits. We -- you know, that's not been part of our MO.

1 So I hope we'll understand fully. It wasn't clear to me  
2 exactly what's happening, but it sounded like there may be  
3 duplication of efforts and an overlap of responsibilities  
4 that could be driving some of that cost without a  
5 commensurate benefit.

6 So I'd like to make sure that staff looks into  
7 that also, and lets us know what they would find.

8 CHAIR NICHOLS: Yeah, I see head nodding at the  
9 staff table. But maybe we could just be explicit and say  
10 that, you know, before we go final with this, that we'd  
11 like to see a plan for implementation that includes some  
12 understanding of the roles of the various entities that  
13 have authority here.

14 I'm going to turn to Mr. De La Torre since he  
15 hasn't spoken yet.

16 BOARD MEMBER DE LA TORRE: Thank you.

17 I want to congratulate staff. I think -- and I  
18 don't do this often. It's just I think I take it for  
19 granted that you know that we appreciate you.

20 (Laughter.)

21 BOARD MEMBER DE LA TORRE: But for a  
22 first-time-ever regulation, in an issue area that it's  
23 fraught, I didn't hear a whole lot of disagreement. I  
24 mean, obviously, you know, the folks on the industry sides  
25 have some concerns and then folks on the advocacy side had



1 a couple of concerns. But there isn't a whole lot. For  
2 something like this, it is really impressive that the  
3 areas of disagreement are relatively narrow. And so I  
4 wanted to thank you for all of the work that you put into  
5 it to get us to that point.

6 And obviously we'll hash those things out, as we  
7 always do, and well have to make decisions on those tough  
8 few things.

9 And then the other point I wanted to make is,  
10 unlike the federal, this is for new and existing. And  
11 again, for the people of California, for us to be looking  
12 at all of this -- I mean, we are an agency that regulates  
13 gallon gasoline cans. We regulate antiperspirant spray.  
14 So, I think this on the scale of things is a little more  
15 important. And so I'm very, very proud that we're here  
16 today and we're going to be moving this along.

17 Thank you.

18 CHAIR NICHOLS: Thank you.

19 Yes, Mr. Serna.

20 BOARD MEMBER SERNA: Thank you, Chair.

21 So I think that this is one of those issues that  
22 really -- an opportunity that really requires us to  
23 reflect back on our mission as an agency and, that is, to  
24 first and foremost protect and promote public health,  
25 obviously with consideration for our economy. That's

1 clearly stated in our mission as well.

2           But, you know, I guess I'd respectfully disagree  
3 with my colleague, Dr. Sperling, in terms of viewing this  
4 as such a small element of what we're charged to do. I  
5 actually, you know, think it's very much a part of what  
6 we're expected to do in principle, regardless of the order  
7 of magnitude here.

8           And as was mentioned before we heard from the  
9 speakers today, this particular pollutant, this particular  
10 air contaminant does have a bearing on climate change and  
11 our charge to address that and greenhouse gas emissions,  
12 but it also has a very important health aspect; and I'm  
13 very glad to see that the folks from Aliso Canyon, near  
14 Aliso Canyon showed up today to give us a very I think  
15 relevant -- some very relevant testimony about their  
16 personal experience, having gone through the largest gas  
17 leak in the history of this country.

18           So I -- you know, I'm very prepared to support  
19 what's in front of us today. I think it -- the alignment  
20 of what we're being asked to consider with our mission as  
21 an agency is crystal clear for me. So I'm prepared to  
22 move the item at the right time, Madam Chair.

23           CHAIR NICHOLS: Okay. Thank you.

24           Yes, Ms. Takvorian.

25           BOARD MEMBER TAKVORIAN: Thank you. And I have a

1 couple of comments and then a question for the staff.

2 I wanted to add my congratulations to the staff  
3 and thanks for a really job well done. I think this is a  
4 major, major issue. And certainly I want to thank  
5 everyone who came from the public, but especially to the  
6 community members who -- for whom I know it's very  
7 difficult to come to Sacramento. This isn't something  
8 that's easy for you to do. You have to make adjustments  
9 in your daily life to take care of your kids, to take time  
10 off work. And so I think all of us here really appreciate  
11 that you're here and that you represent some of the  
12 communities that are the most impacted by these pollutants  
13 and that have gone for so long with lax regulation or  
14 nonexistent regulation. So many of you are the ones who  
15 have both suffered the acuteness of the Aliso Canyon leak  
16 but also the chronic conditions that many of you,  
17 particularly like in Kern County, have expressed -- have  
18 endured over many decades

19 So I would say that to the degree that we can  
20 expedite the timeline and get this rule back in front of  
21 the Board in early 2017, that I think would be something  
22 that would be important to do because I think we need to  
23 be more responsive to the community members who are  
24 enduring this.

25 And with all due respect, I don't think that this

1 is something that anybody thought wasn't going to happen  
2 over the last several years. And I know you've been  
3 working hard on it. So I have confidence that all of the  
4 industries that need to are gearing up for this.

5 And I really do appreciate the removal of the  
6 inspection step-down. I think that's appropriate to do.  
7 It's clear that monitoring and disclosure works,  
8 transparency works, so let's inject more of that.

9 And I would agree with our Chair, that there are  
10 those that might join them to say there's a way to solve  
11 this problem, pollution prevention is a good way to solve  
12 it, and we switch to another source of energy and then we  
13 won't be doing -- we won't be arguing about whether it's  
14 too fast or too expensive. We'll be talking about how we  
15 can have a sustainable, renewable health-promoting source  
16 of energy.

17 So I think we are talking about that in other of  
18 our rules and others of our programs. So I appreciate  
19 that and I think it's appropriate.

20 My question is: I understand that - and I want  
21 to make sure I'm understanding this correctly - that Bay  
22 Area Air Quality Management District does have similar  
23 rules in place now; and I wanted to understand what the  
24 relationship is and comparison is between the standards  
25 that are being promoted or proposed in this rule and

1 those -- and how you see those integrating.

2 Thank you.

3 OIL & GAS SECTION MANAGER NYARADY: Sure. This  
4 is Jim Nyarady.

5 The Bay Area has -- currently has rules for  
6 refineries and they also have a rule for marine vessels  
7 and they have a rule for oil and gas fields, all of which  
8 have an LDAR leak detection component, but they do have  
9 different standards. Some go down to as far as a hundred  
10 ppm and some are as high 10 thousand ppm.

11 So what we've done in ours is to set a standard  
12 of a thousand ppm as the trigger. And the idea being  
13 mostly because we're, you know, looking at some sources  
14 that haven't been regulated before like the -- you know,  
15 the natural gas storage and so on.

16 So that's kind of the range that they have in the  
17 various rules.

18 BOARD MEMBER TAKVORIAN: But aren't the  
19 mechanisms similar in terms of the leak detection in terms  
20 of the equipment itself? And if those are working well at  
21 the lower levels, can you talk about why the lower levels  
22 weren't incorporated or what your thinking was about that?

23 OIL & GAS SECTION MANAGER NYARADY: Well, yeah,  
24 we were really looking at the other oil and gas rules that  
25 are out there, and the field rules so a lot of those have

1 2,000 ppm or a thousand ppm. So we were looking to be  
2 consistent in this effort of what the local air districts  
3 are doing with oil and gas inspection.

4 But, you know, clearly there's the, you know,  
5 looking forward to -- the idea of being that when these  
6 first get implemented, they usually start at a high number  
7 and then they lower down over time. So in the Bay Area's  
8 refinery rule, for example, it started higher; but as they  
9 controlled other parts of the refineries, the fugitive  
10 portion became a larger and larger portion, so they kept  
11 coming down in concentration for those. But we're going  
12 to be starting with some of these that haven't been  
13 regulated before and some are starting at the thousand ppm  
14 limit.

15 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH  
16 CHIEF SCHEEHLE: I also just wanted to add on one point,  
17 that when you're moving from something like 10,000 to  
18 1,000, you got a significant percentage increase in the  
19 leaks that you find; going from a thousand to 500 we found  
20 was in the like 1 percent -- a couple percent range. So  
21 we felt like this was a good place where we could get the  
22 majority of reductions.

23 BOARD MEMBER TAKVORIAN: Thank you.

24 CHAIR NICHOLS: Thanks. That's helpful.

25 I wanted to ask a question about the step-down,

1 because it's -- was raised by a number of the speakers.  
2 And I understand there's sort of an intuitive idea that if  
3 somebody's doing a good job, we want them to be able to  
4 inspect less, and that that could -- not having to do so  
5 many inspections would seem to be an incentive for people  
6 to do a really good job on leak detection and repair.

7 But, conversely, if we really believe that  
8 everything is going to leak eventually, I'm not sure that  
9 that's actually the right way to go about addressing the  
10 problem. And I'm -- I'd like to ask you sort of to  
11 justify your thinking a little bit more, especially with  
12 relationship to other safety situations that we know  
13 about, because it is safety as well as air quality that  
14 we're -- one way or another is implicated, and whether  
15 there are other alternatives that might be out there as  
16 incentives to people to do a really good job on the repair  
17 side of things as opposed to just doing less inspecting.

18 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH  
19 CHIEF SCHEEHLE: Well, we -- there's several reasons why  
20 we decided to propose to remove the step-down, which  
21 was -- as you were saying, just because you find leaks, it  
22 doesn't mean that -- you know, just because you do that  
23 and you do that in a good manner for five quarters, it  
24 doesn't mean that you won't have a leak after that. So  
25 looking at the analysis that was out there, the scientific

1 papers about how leaks can occur at any time and any  
2 place, we decided that this -- you know, keeping the  
3 quarterly inspections was the appropriate way to do that,  
4 and to make sure that we're on the ground in a regular  
5 fashion to -- in order to address things like leaks that  
6 have happened at the storage facilities as well as --  
7 because there were some that even happened after Aliso  
8 Canyon, I think somebody mentioned -- smaller -- but  
9 McDonald island, and there was another --

10 CHAIR NICHOLS: So your current position, just to  
11 be clear, is that you're not going to reduce the frequency  
12 of inspections?

13 OIL & GAS AND GREENHOUSE GAS MITIGATION BRANCH  
14 CHIEF SCHEEHLE: Yes, yes.

15 CHAIR NICHOLS: Okay. Great. I had gotten that  
16 backwards then. Thanks.

17 Other -- yes, Dr. Sherriffs.

18 BOARD MEMBER SHERRIFFS: Thank you.

19 I'd also like to congratulate staff. You know,  
20 you've clearly hit the sweet spot when we have angry  
21 mothers on one side and oil and gas on the other. So  
22 great job.

23 (Laughter.)

24 BOARD MEMBER SHERRIFFS: You know the co-benefits  
25 I think are worth emphasizing, because we're focusing on



1 methane, but part of the this regulation -- methane is not  
2 traveling alone. There are other chemicals we have to be  
3 aware of. And I am haunted by an early death in my  
4 practice related to a brain tumor, somebody working in oil  
5 and gas. And I worry about benzene and toluene and those  
6 other chemicals that we do know are associated with those  
7 kinds of problems. And I can't be sure -- I don't know if  
8 that death was associated with that, but certainly there's  
9 a strong literature that we need to be concerned about  
10 those kinds of things.

11           So the health co-benefits beyond methane alone  
12 are certainly very important.

13           You know, the districts know this is coming, and  
14 the San Joaquin District, we've talked about this at a  
15 couple of Board meetings. So the staff are gearing up.  
16 Clearly, not -- no details because the details are not out  
17 yet, but it's expected. And then in fact the district is  
18 looking forward to accepting this responsibility and  
19 working with the local stakeholders on it.

20           The other issue -- yeah, we want to focus on big  
21 resources. But again it's preventive medicine because  
22 it's the potential big sources. And so a lot of this is  
23 preventive medicine. And nobody should expect to be  
24 thanked for preventing something that didn't happen  
25 because nobody knows it didn't happen, unless they believe

1 in statistics.

2 (Laughter.)

3 BOARD MEMBER SHERRIFFS: But it is so important,  
4 it is such important work.

5 I guess I would want to be sure that staff  
6 rethinks, you know, 26 pounds per tank per event doesn't  
7 sound like a very big number. I'm not sure how many  
8 events per year we're talking about. So doing the math.

9 But I would also want to be sure that our  
10 friends, colleagues, collaborators, and the industry are  
11 looking at that and saying, "Well, if we think it's too  
12 hard to get it here, where is another place we could get  
13 that," kind of equivalency. So I think that's a fair  
14 question to ask too.

15 Thank you.

16 CHAIR NICHOLS: Yes, Mr. Gioia.

17 BOARD MEMBER GIOIA: Let me first start by saying  
18 I wouldn't call them angry mothers. I'd call them  
19 passionate mothers.

20 (Laughter.)

21 BOARD MEMBER GIOIA: So we appreciate you being  
22 here and being great advocates.

23 And I don't want to add much more to those who've  
24 already spoken, that I think that the staff has struck a  
25 balance on this. I think this is an important role for us

1 to have. And as we heard from the staff representative  
2 from the air district, there will be some additional  
3 regulations on top of what already exist at the Bay Area  
4 and intending to sort of look at these standards even  
5 further.

6 So I will be supporting this.

7 CHAIR NICHOLS: Any other comments here?

8 Well, Ms. Berg hasn't spoken on this issue,  
9 somewhat to my surprise.

10 So I'm going to say something about it. And it  
11 has to do with implementation in areas where you've got a  
12 lot of small operators working. I'm hoping -- I don't  
13 like to see exemptions or, you know, easier regulations  
14 when you've got a multiple city of small people, because  
15 you're still going to have a lot of emissions out there.  
16 But I would like to see if there's a way that we could  
17 facilitate some kind of reporting and monitoring  
18 requirements that could be effective across a group rather  
19 than having to be necessarily implemented separately by  
20 each and every one of these folks. And I think maybe the  
21 industry association might be helpful in that regard in  
22 terms of developing some sort of a methodology whereby a  
23 whole region could perhaps get together to make the  
24 process more cost effective. I just think that's  
25 something that's worth trying to figure out. If you can

1 facilitate that happening, it would be a good thing.

2 VICE CHAIR BERG: Thank you, Chair Nichols. I am  
3 working with several of the smaller groups and had a great  
4 briefing with staff, and have also had a couple of  
5 meetings with staff through this process. I'm very  
6 encouraged and really looking forward to continuing to  
7 facilitate between the groups that I'm working with and  
8 with staff. I'm getting very positive responses on both  
9 sides. There's several technical areas that I am pursuing  
10 for them.

11 CHAIR NICHOLS: Good. I'm glad to hear it.

12 VICE CHAIR BERG: And thank you for bringing it  
13 up.

14 CHAIR NICHOLS: Okay. All right.

15 So do we have a motion to approve the resolution?

16 BOARD MEMBER SERNA: So moved.

17 CHAIR NICHOLS: I'm sorry. You did it.

18 All right. Do we have a second?

19 BOARD MEMBER ROBERTS: Second.

20 CHAIR NICHOLS: All right. A second from  
21 Supervisor Roberts.

22 I think we can do this again by voice vote.

23 So all in favor please say aye.

24 (Ayes.)

25 CHAIR NICHOLS: Opposed?

1           And nobody is abstaining.

2           Okay. Terrific.

3           Thank you. Thank you, all. Thanks, everybody.

4 This is obviously not the end. It's a point in the  
5 process and there's a lot of work left to be done, but  
6 we're all committed to seeing it come to a successful  
7 conclusion.

8           So, this is probably a very good time to break  
9 for lunch.

10           And give the court reporter a break too.

11           Okay. Let us adjourn and be back at 1:30 then.

12           Thank you.

13           (Off record: 12:23 p.m.)

14           (Thereupon a lunch break was taken.)

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1                   A F T E R N O O N   S E S S I O N

2                   (On record: 1:46 p.m.)

3                   CHAIR NICHOLS: Good afternoon, ladies and  
4 gentlemen. I'm on. We're back in session. The Board is  
5 returning from lunch.

6                   And the next item on our agenda is going to be a  
7 presentation update on the status of the greenhouse gas  
8 emissions from light-duty vehicles from 2017 through 2025  
9 model years. But before we get started on that, I do want  
10 to report that we did have a closed session at lunch, and  
11 our counsel briefed the Board on the status of ongoing  
12 litigation. There were no decisions made.

13                   Okay. So we're on to Item 16-7-5. And we're now  
14 going to be hearing about the technical assessment that  
15 was just released. ARB and our partners in the federal  
16 government, EPA and the National Highway Transportation  
17 Safety Administration, worked together to do a technical  
18 assessment of the appropriateness of the federal  
19 greenhouse gas standards for light-duty vehicles for the  
20 2022 through 2025 model years. This is part of the  
21 mid-term review of the standards that California adopted  
22 along with the federal government.

23                   And so we'll hear from the staff at this point,  
24 but there will not be any formal action taken on this  
25 item.

1           And, Mr. Corey, do you have anything to introduce  
2 here?

3           EXECUTIVE OFFICER COREY: I do, briefly.

4           In 2004, ARB adopted the Pavley regulations, the  
5 first in the nation to require reductions of greenhouse  
6 gas emissions from motor vehicles. Those regulations  
7 covering 2009 through 2016 form the foundation for the  
8 Federal GHG Program for passenger vehicles for 2012  
9 through 2016 model years.

10           In May of 2010, a presidential memorandum  
11 directed the United States Environmental Protection Agency  
12 and the National Highway Traffic Safety Administration, or  
13 NHTSA, to work jointly to develop GHG standards for model  
14 years 2017 through 2025. The memorandum requests that EPA  
15 and NHTSA work closely with ARB to assess technologies and  
16 costs for the standards.

17           This led to a comprehensive technical  
18 coordination between our three agencies that resulted in  
19 federal passenger vehicle GHG standards that closely  
20 mirror the California standards for the same model years.

21           So an important element of the standards was  
22 requirement that U.S. EPA and NHTSA and ARB conduct a  
23 mid-term review to assess the appropriateness of the  
24 standards for 2022 through 2025. And, as the Chair noted,  
25 there's a report that was recently released, and this an

1 informational status report on that document.

2           So with that, I'll ask Mike McCarthy to give the  
3 staff presentation.

4           (Thereupon an overhead presentation was  
5 Presented as follows.)

6           VEHICLE PROGRAM SPECIALIST McCARTHY: Thank you,  
7 Mr. Corey.

8           Good morning, Chair Nichols and members of the  
9 Board. Today's presentation will summarize the status and  
10 importance of the joint Technical Assessment Report, or  
11 TAR. This report, which was released this past Monday, is  
12 the first milestone in the California and federal mid-term  
13 review of the 2022 through 2025 model years light-duty  
14 vehicle greenhouse gas emission standards.

15                               --o0o--

16           VEHICLE PROGRAM SPECIALIST McCARTHY: First, let  
17 me take a minute to revisit how we got to where we are.  
18 In 2012, ARB adopted its second generation of greenhouse  
19 gas emission standards for light-duty vehicles as part of  
20 its Low-Emission Vehicle III, or LEV III, program. The  
21 LEV III regulations established increasingly stringent  
22 greenhouse gas standards for 2017 through 2025 model year  
23 light-duty vehicles, which includes passenger cars, sport  
24 utility vehicles, and pick-up trucks. The LEV III program  
25 was adopted by the Board as part of the Advanced Clean



1 Cars rulemaking package that also includes the ZEV  
2 regulation.

3 Later that year, with the involvement of ARB, the  
4 United States Environmental Protection Agency and the  
5 National Highway transportation Safety Administration, or  
6 NHTSA, adopted federal passenger vehicle greenhouse gas  
7 standards and fuel economy standards that closely mirrored  
8 the California standards.

9 One element of the adopted standards was a  
10 requirement that EPA, NHTSA, and ARB conduct a mid-term  
11 evaluation to assess the appropriateness of the standards  
12 for the '22 through 2025 model years. The draft TAR  
13 released this week is the first major milestone in that  
14 evaluation and provides an update in the technical and  
15 economic basis for determining the feasibility of  
16 compliance with these standards. This report, which I'll  
17 summarize for you today, was jointly developed and  
18 authored through a multi-year effort between EPA, NHTSA,  
19 and ARB.

20 --o0o--

21 VEHICLE PROGRAM SPECIALIST McCARTHY: For the  
22 existing greenhouse gas standards, we often think  
23 immediately of the direct carbon dioxide emissions emitted  
24 at the tailpipe from the vehicle. And while that is  
25 lion's share of the greenhouse emissions, the standards

1 also cover other greenhouse gas emissions emitted from the  
2 tailpipe such as methane or nitrous oxides as well as  
3 emissions from leakage of the refrigerants used by the  
4 vehicle's air conditioning system such as  
5 hydrofluorocarbons.

6 --o0o--

7 VEHICLE PROGRAM SPECIALIST McCARTHY: Both the  
8 California LEV III greenhouse gas standards and the  
9 federal standards build upon the emission reductions  
10 achieved under the original California "Pavley"  
11 regulations that applied to 2009 through 2016 model years,  
12 by further reducing CO2 and other greenhouse gases from  
13 light-duty vehicles between the 2017 and 2025 model years.

14 One important feature of these standards is that  
15 they are indexed to the vehicle footprint, which is  
16 defined as the area between the wheels of the vehicle.  
17 Essentially, the bigger the vehicle, the larger its  
18 footprint and its associated standards.

19 Additionally, because trucks are subject to  
20 higher loads than passenger cars, they are allowed to  
21 admit higher CO2 levels than cars. However, while a  
22 bigger vehicle or a truck is allowed to emit at a higher  
23 level compared to smaller vehicles, all cars and trucks,  
24 regardless of size, are required to improve their CO2  
25 emissions at a similar rate of nearly 5 percent per year



1           VEHICLE PROGRAM SPECIALIST McCARTHY: Over the  
2 past few years, the three agencies have conducted a wide  
3 range of analysis and stakeholder engagements that formed  
4 the basis for the draft TAR just released. This  
5 comprehensive assessment draws upon data derived from  
6 multiple sources, including:

7           Vehicle and component laboratory testing of new  
8 and industry-leading technologies;

9           Tear-down studies of components and systems to  
10 determine detailed manufacturing costs;

11           Input from suppliers and vehicle manufacturers;  
12 and

13           Technical publications.

14           This information formed the basis of input data  
15 for the component and vehicle computer simulations used to  
16 determine the efficiency and costs of the updated vehicle  
17 technology packages in the TAR.

18           It's important to note that the TAR is not a  
19 policy document that draws a conclusion on the  
20 appropriateness of the standards. Rather, as I mentioned  
21 earlier, it is an update to the technical and economic  
22 assessment used to develop these standards.

23                           --o0o--

24           VEHICLE PROGRAM SPECIALIST McCARTHY: I would now  
25 like to share with you some of key findings of the draft

1 TAR.

2 First, and most importantly, the agencies found  
3 that the 2025 model year greenhouse gas standards can be  
4 met cost effectively predominantly with advanced gasoline  
5 engines and transmissions. Light-weighting, improved  
6 aerodynamics, and better tires also provide additional  
7 greenhouse gas reductions.

8 As you can see in the table, compliance with the  
9 national standards is not expected to rely on automakers  
10 selling large quantities of electric vehicles or hybrids,  
11 which keeps incremental vehicle costs lower.

12 However, because the stringency of the existing  
13 national standards does not lead to larger sales of  
14 electric-drive vehicles, which are needed to meet  
15 California's longer term air quality requirements and  
16 greenhouse gas reductions goals, California needs to  
17 maintain our additional technology forcing policy through  
18 the Zero-Emission Vehicle regulation.

19 As a reminder, a review of the ZEV regulation  
20 will be part of the California mid-term review to be  
21 finalized presented to the Board later this year.

22 --o0o--

23 VEHICLE PROGRAM SPECIALIST McCARTHY: Additional  
24 key findings in the draft TAR relate to projected benefits  
25 and costs. The new analysis relies on updated assumptions

1 of the mix of cars and trucks, which shows people are  
2 purchasing more trucks and fewer cars than was projected  
3 in the 2012 rulemaking.

4           Because trucks have higher target CO2 levels than  
5 cars, the updated projected fleet average for the 2025  
6 model year is 175 grams per mile versus the original 163  
7 grams per mile projection. The corresponding projected  
8 fuel economy is 50.8 miles per gallon nationally instead  
9 of 54.5. These updated projections assume that the  
10 stringency of the '22 through 2025 model year  
11 greenhouse-gas standards does not change.

12           Finally, the TAR projects that the average  
13 incremental cost per vehicle to comply with the greenhouse  
14 standards in model year 2025 will be about the same or  
15 lower than the original projections used in the  
16 rulemaking. The payback period for recouping this cost,  
17 however, is longer than originally estimated. This is  
18 because current and future fuel prices, as forecast by the  
19 U.S. Energy Information Administration's 2015 Annual  
20 Energy Outlook, are lower now than what was projected back  
21 in 2012 during the original rulemaking.

22           --o0o--

23           VEHICLE PROGRAM SPECIALIST McCARTHY: While the  
24 overall message of the TAR is a good-news story,  
25 automakers have raised a number of issues of concern to

1 them.

2 First, to contend that the actual emission  
3 reduction benefits from advanced technologies are lower  
4 than those predicted in the original rule and that the  
5 cost of these technologies are higher. These conclusions  
6 are not supported by the findings of either the study by  
7 the National Academies or by the new draft TAR.

8 Second, automakers argue that the fuel efficiency  
9 is not a consumer priority given the lower fuel prices.  
10 They point to higher sales of trucks and a slow pace of  
11 hybrid market growth to support their arguments. However,  
12 manufacturers are already overcomplying with the first few  
13 years of the greenhouse gas standards during a time where  
14 they have concurrently increased sales for six years in a  
15 row, with a record-setting number of new cars sold in  
16 2015.

17 Another example includes a recent survey released  
18 last month by Consumer Reports that found there was a  
19 strong public support for improving fuel economy in new  
20 vehicles, with 84 percent of those surveyed indicating  
21 they felt automakers should continue to improve fuel  
22 economy for all vehicle types.

23 Automakers also claim that compliance with the  
24 current greenhouse gas standards will require them to sell  
25 substantially more hybrid electric vehicles than they do

1 now. But this claim is also not supported by the TAR. As  
2 I previously mentioned, EPA's updated analysis in the TAR  
3 finds that the 2025 model year greenhouse gas standards  
4 can be met cost effectively predominantly with advanced  
5 gasoline engines and transitions.

6 Finally, automakers are concerned that the  
7 California zero-emission vehicle regulations make  
8 compliance with the national greenhouse standards more  
9 costly. However, as the Board well knows, we have a  
10 zero-emission vehicle regulation because increasing  
11 zero-emission vehicle sales is essential to putting us on  
12 a path to meet our longer term air quality requirements  
13 and greenhouse gas reduction goals.

14 Further, as reflected in the draft TAR, battery  
15 costs are declining at a more rapid pace than we projected  
16 four years ago, helping to increase the cost effectiveness  
17 of these vehicles.

18 --o0o--

19 VEHICLE PROGRAM SPECIALIST MCCARTHY: My final  
20 slide outlines the next steps for the federal rulemaking  
21 and the California mid-term review.

22 A pending notice in the Federal Register will  
23 start a 60-day public comment period on the findings of  
24 the draft TAR. Comments received through this process  
25 will be reviewed by ARB, as well as our federal partners.



1           The next step in the California mid-term review  
2 will be an Advanced Clean Cars Technology Symposium, which  
3 is scheduled for September. This symposium will cover  
4 technologies not addressed in the TAR as well as other  
5 elements of our mid-term review - the one milligram per  
6 mile PM standard and the zero-emission vehicle regulation.

7           In December, staff will present TO the Board the  
8 findings and recommendations of the California mid-term  
9 review. The basis for these findings, including the TAR,  
10 will be discussed in a technical report that staff will  
11 release prior to the hearing.

12           On the national level, EPA's expected to release  
13 its preliminary determination on the appropriateness of  
14 the '22 through '25 standards sometime in 2017.  
15 Subsequently, by April of 2018, a final determination is  
16 expected, along with any necessary regulatory changes, on  
17 the appropriateness of the national greenhouse standards  
18 for model years '22 through 2025.

19           And this concludes the staff's presentation.

20           CHAIR NICHOLS: Thanks.

21           Just as a reminder, California had to take  
22 regulatory action to allow for cars that met the federal  
23 standards to be deemed acceptable under California rules,  
24 because prior to that time we had a standard for GHG  
25 emissions that was more stringent than the federal

1 standard. But we were able to make a finding that by  
2 selling nationwide, the net effect on climate would be as  
3 good as California enforcing its own standards. So we  
4 went ahead and did adopt the federal standards to now have  
5 one national GHG standard.

6 The -- there is always the possibility that those  
7 things could break apart. And certainly the fact that we  
8 were able to do this to be able to be part of a national  
9 program was a big incentive for the auto manufacturers to  
10 participate in this agreement.

11 There's also a sort of ongoing, I would say,  
12 tension, for lack of a better word, I think there is a  
13 legal tension at least between the requirements of the  
14 cafe law and the requirements of the EPA/ALD Greenhouse  
15 Gas emissions approach to the world, and I think the  
16 TAR -- or the process of getting to the TAR really kind of  
17 strained all of us because of those differences in  
18 approach and a sense of what the missions of those  
19 agencies are.

20 So looking ahead, it's going to be interesting to  
21 see where this program evolves, I think, because, you  
22 know, as NHTSA is now facing increasing pressures to  
23 devote more resources to the safety issues, which if  
24 anything are becoming more challenging to them in a world  
25 where cars are adding all kinds of features that are

1 related to autonomous driving, the ability to do this as  
2 one national program is definitely going to be more of a  
3 challenge in the future. But for the moment all that  
4 we're really looking at is just making a -- sort of a  
5 binary decision about, well, we could decide -- it would  
6 decide that the standards were needed to either be  
7 weakened or strengthened. I think what we're saying about  
8 the TAR is that, if anything, it shows -- it indicates the  
9 potential that you could actually strengthen those  
10 standards. But nobody is putting any requirements --  
11 nobody's putting any proposals out there at the moment.  
12 We're strictly in the realm of looking at the data and  
13 what it shows.

14 I think the task for today, however, in addition  
15 to hearing from members of the public who want to comment  
16 on that, is to also reflect on California's own ongoing  
17 review of our Zero-Emission Vehicle Program, because as  
18 again people will recall, this -- the TAR does not address  
19 the ZEV mandate and it really only minimally addresses the  
20 issue of ZEVs at all as part of the baseline of  
21 what's -- what's contemplated as a way of dealing with the  
22 existing standards. And what we've learned is that it  
23 doesn't do much at all in the way of pushing for a greater  
24 role, even though it's the policy certainly of the Obama  
25 administration to try to dramatically increase the use of

1 electric vehicles nationwide. But nothing in the current  
2 regulatory structure actually requires that to happen.

3 So we now have the opportunity once again as  
4 California to think about what we want to be doing and  
5 where we want to be headed. So that's the context here.

6 We do have 12 entities that have -- people --  
7 they're actual people who've signed up to speak to us.

8 (Laughter.)

9 CHAIR NICHOLS: So why don't we hear from them,  
10 starting with our visitor from NESCAUM, our partner in  
11 many activities relating to the ZEV alliance.

12 Mr. Solomon, Hi.

13 MR. SOLOMON: Hello. Good afternoon. Matt  
14 Solomon with Northeast States for Coordinated Air Use  
15 Management, also known as NESCAUM. Appreciate the  
16 opportunity to comment today.

17 We commend and thank ARB staff for the  
18 extraordinary effort that went into this report, along  
19 with their counterparts in the federal agencies.

20 The findings of the draft TAR reinforce what we  
21 have seen over many decades with state and federal  
22 environmental policy that's setting aggressive yet  
23 feasible pollution control requirements, fosters  
24 technology innovation to the benefit of consumers, the  
25 economy, and the environment.

1 I'll also note -- or echo comments that Mike  
2 McCarthy made a few minutes ago, that the finding in the  
3 TAR that compliance can be achieved without substantial  
4 reliance on electrification underscores the continued need  
5 for strong state ZEV programs. And to that point, I have  
6 brought with me a letter that was signed yesterday,  
7 addressed to you-all, signed by the top environmental  
8 regulators in the states of New York, Massachusetts,  
9 Connecticut, Rhode Island, Vermont, and Oregon. It is in  
10 the mail to you right now or will be very soon.

11 And it reads:

12 "As lead environmental agency officials in states  
13 that are implementing the California Advanced Clean Cars  
14 Rules, including the ZEV requirements, and who are  
15 partners with California in the development and  
16 implementation of the multi-state ZEV Action Plan, we'd  
17 like to stress the importance of ensuring that robust and  
18 binding ZEV requirements take effect in our states.

19 "Our states, like California, have adopted  
20 aggressive greenhouse gas emission reduction goals.  
21 Transportation is the largest source of greenhouse gas  
22 emissions in our states and the most difficult sector to  
23 control as emissions continue to increase. For this  
24 reason, transportation electrification is a key strategy  
25 to achieve in our climate goals.

1           "The Clean Air Act, however, precludes us from  
2 adopting vehicle emission standards that differ from  
3 California's. Accordingly, decisions made by the Air  
4 Resources Board in the course of the ZEV mid-term review  
5 will have a significant impact on our efforts to support  
6 clean transportation and meet our state greenhouse gas  
7 goals.

8           "Regulatory certainty is critical for both the  
9 automobile manufacturers and for the states to effectively  
10 plan and manage the transition to widespread  
11 transportation electrification. Due to the structure of  
12 the current regulations, there has not yet been a binding  
13 ZEV sales requirement in our states. The binding ZEV  
14 sales requirements that are set to begin in 2018 are  
15 critical to maintain the" -- excuse me -- "to maintain the  
16 certainty necessary to drive both continued investments  
17 and innovations by the automobile manufacturers.

18           "Any further delay would undermine the certainty  
19 that auto manufacturers, utilities, charging providers,  
20 and others need for effective planning and would put at  
21 risk the millions of dollars our states have invested the  
22 ZEV readiness.

23           "States, stakeholders, and the auto industry are  
24 working together in an unprecedented manner to build the  
25 ZEV market. Regulatory certainty and consistency is a

1 critical element to this collective effort.

2 "To be clear, our states are not relying on the  
3 ZEV mandate alone to transform the transportation sectors  
4 since the 2012 ZEV amendments" -- I'm sorry.

5 CHAIR NICHOLS: Go ahead. That's all right. We  
6 give extra time for state officials even if they're not  
7 actually here.

8 MR. SOLOMON: I need just about 10 more seconds,  
9 I'd appreciate it.

10 CHAIR NICHOLS: Okay.

11 MR. SOLOMON: "To be clear, since the 2012 ZEV  
12 amendments we've been working on many fronts with multiple  
13 stakeholders to prepare our markets for ZEVs. Together,  
14 the states continue to add to the thousands of public  
15 charging stations already deployed, offer purchase  
16 incentives for ZEVs and charging stations, promote  
17 workplace charging, add ZEVs to public fleets, establish  
18 dealer training and recognition programs, and more, all in  
19 anticipation of the binding sales requirements that are  
20 set to take effect in 2018.

21 "Our states remain ready and committed to  
22 supporting ZEVs in the increasing numbers that will be  
23 required to comply with the ZEV regulation and further our  
24 collective efforts to combat the grave threat of climate  
25 change.

1           "For the foregoing reasons, we urge you to avoid  
2 any changes to the ZEV regulation that would reduce or  
3 delay ZEV sales requirements in our states."

4           Thank you very much.

5           CHAIR NICHOLS: Thank you. And thank the people  
6 who signed the letter as well.

7           Okay. Eli Love. Yes.

8           MR. LOVE: Good afternoon. My name is Eli Love,  
9 and I'm here today representing CALinnovates.  
10 CALinnovates is a coalition of technology leaders,  
11 start-up, and entrepreneurs that serve as a bridge between  
12 the thriving tech communities based here in California and  
13 the public policy communities of Sacramento and Washington  
14 DC.

15           CALinnovates champions the rise of innovation  
16 across California. We work on a variety of new economy  
17 issues facing Californians, including the personal  
18 enterprise economy, ride and home sharing, net neutrality  
19 in a digital divide and access to the internet, hardware  
20 regulation and innovation tax incentives.

21           When it comes to electric vehicles, California  
22 leads the nation in EV design, manufacturing adoption, due  
23 in no small part to the leadership of Governor Brown and  
24 the policies established by this Board.

25           Fighting global warming, making our air cleaner,



1 and improving health outcomes are a fundamental challenge  
2 facing our state and our nation. California, it is fair  
3 to say, has more than any other state to tackle the real  
4 and significant challenges we face.

5           While we have made significant progress, we still  
6 have a long way to go. And the simple truth is that we  
7 must recalibrate. In 2012, when the 2018 through 2025  
8 credit targets were adopted, the Board anticipated we  
9 would achieve 15 percent ZEV sales by 2025. Governor  
10 Brown has called for a hundred percent of new cars sales  
11 in this state to be zero-emission vehicles by 2050. Yet,  
12 unless this Board takes action, we will not meet these  
13 goals.

14           The federal greenhouse gas and fuel economy  
15 targets can be met with incremental improvements to  
16 traditional combustion engine technology. This means that  
17 California's zero-emission vehicle mandate is the sole  
18 forcing mechanism to drive traditional automakers to  
19 invest in next generational EV technology and mass market  
20 programs.

21           Unfortunately a growing body of data is revealing  
22 that the strength of California's mandate is being diluted  
23 by a glut of compliance credits. This is why CALinnovates  
24 believes that it is urgent that the Board take action now  
25 to assess this issue and propose a solution to restore the

1 original intent of the targets adopted in 2012. We  
2 believe that California should require that 15 percent of  
3 all cars sold in California be zero-emission vehicles by  
4 2025. If we do this, it will insure that the state  
5 continues to be the global leader in automotive  
6 innovation, job creation, and policies that mitigate the  
7 existential threat posed by global warming.

8 We at CALinnovates thank you for your leadership  
9 on this issue.

10 Thank you.

11 CHAIR NICHOLS: Thank you.

12 MR. MUI: Good afternoon. Simon Mui with Natural  
13 Resources Defense Council.

14 I first want to commend staff for the amazing  
15 amount of work around the TAR. You know, I think this  
16 does not do justice to the 1217 pages of work and the  
17 countless hours that went into this document. And as  
18 you've heard today, what we see is that the indicators are  
19 very positive, that fuel-saving technologies for  
20 automobiles are advancing faster than expected. And  
21 despite some claiming that the standards should be  
22 weakened, there are 1217 pages actually showing the  
23 industry can actually meet the standards on time with  
24 known technologies and at the same or lower costs than  
25 originally expected.

1           At the same time, I think all three agencies are  
2 agreeing that the federal standards, GHG, will only drive  
3 advanced combustion technologies. It is California's ZEV  
4 Program that is really putting ZEV technologies on a  
5 national stage, front and center.

6           And the ZEV standard has been very successful  
7 thus far. Together with state and federal incentives that  
8 have made it -- have complemented, we are priming the  
9 market and facilitating the ZEV targets to be very much  
10 met and overcomplied with.

11           But one of the concerns we've got is that we're  
12 seeing a strong need for ARB to actually redouble efforts,  
13 given the ZEV Program needs actually a tune-up to stay on  
14 course and to avoid us getting stranded short of our  
15 climate and air quality goals. That's because simply the  
16 technology has advanced much further than when the credits  
17 were set up five years ago and in some cases over 15 years  
18 ago.

19           So Chuck Shulock, who we commissioned to analyze  
20 this issue, will be presenting more details on this next.  
21 But what it basically means is that we're on a path to 6  
22 percent sales in 2025 instead of 15 percent. Just one  
23 automaker, Tesla Motors, could potentially meet the entire  
24 industry obligations.

25           So the good news is that ARB can fix this going

1 forward. We ask ARB to come back end of the year to make  
2 sure the ZEV Program -- to look at some options that the  
3 ZEV Program hits 15 percent sales or more by 2025. Let's  
4 not delay this, because a modest tune-up today is much  
5 more desirable than getting stranded when we're halfway to  
6 our goals. It's too important, too critical.

7 And we also will work together with all of you  
8 here around the complementary incentive policies and  
9 infrastructure programs. Let's work together and redouble  
10 efforts on all fronts.

11 Thank you.

12 CHAIR NICHOLS: Okay. Thank you.

13 And here is a familiar face.

14 (Laughter.)

15 CHAIR NICHOLS: Good to see you back.

16 MR. SHULOCK: Thank you so much.

17 I'm Chuck Shulock, a veteran of several previous  
18 ZEV and GHG rulemakings, and now an independent  
19 consultant.

20 (Thereupon an overhead presentation was  
21 Presented as follows.)

22 MR. SHULOCK: As you know, the ZEV regulation by  
23 design provides great flexibility to manufacturers. But  
24 one consequence of that flexibility is that the number of  
25 vehicles required will vary greatly depending on what



1 through 2025 make it more difficult to define a plausible  
2 trajectory that meets the aggressive sales levels needed  
3 in 2030 and beyond to meet long-term public health and  
4 climate goals absent any updates to the program.

5 This graph shows annual ZEV and T-ZEV sales  
6 through 2025 under the 2012 ARB projection and the updated  
7 NRDC projection, as compared to the 40 percent sales  
8 called for in one scenario in the ARB May 2016 mobile  
9 source strategy.

10 As you can see, the ramp to 2030 is steep, at  
11 best, and made more so by lower early sales.

12 Next slide.

13 --o0o--

14 MR. SHULOCK: Second, the reduced number of  
15 vehicles required from the major manufacturers makes the  
16 regulation vulnerable to a credit overload if new entrants  
17 such as Tesla and potentially others reach significant  
18 sales levels. This slide looks only at the pure ZEV  
19 portion of the obligation. It uses a hypothetical  
20 scenario under which Tesla California sales grow to about  
21 88,000 per year in 2025.

22 Under this scenario, Tesla generates more than  
23 enough credits to satisfy the entire OEM ZEV obligation  
24 each year through 2024. Such projections are of course  
25 highly uncertain. But this scenario illustrates the

1 potential for a significant impact.

2           Finally, taking a step back from the details of  
3 the numbers, it's worth considering, if the regulation  
4 will continue to apply, the appropriate degree of  
5 technology forcing pressure. The results of this analysis  
6 suggest that the level of effort needed to achieve  
7 compliance will be declining over time.

8           Throughout the history of the ZEV regulation the  
9 challenge has been to find the stringency sweet spot that  
10 ensures ongoing progress yet is feasible for the  
11 manufacturers to meet. This balance is difficult to  
12 quantify but over the long haul it drives the results of  
13 the program.

14           Thank you for your consideration.

15           CHAIR NICHOLS: Thank you.

16           Did you have a question?

17           VICE CHAIR BERG: Yeah, I had a quick question.

18           Hi, Chuck.

19           On your scenario, are you stating that then the  
20 auto manufacturers would buy credits from Tesla rather  
21 than continuing their own programs?

22           MR. SHULOCK: That's really a question for them.  
23 I think what this is showing is that a sufficient supply  
24 of credits would exist to allow them to do that. You  
25 know -- I know your staff will be talking to the

1 automakers about what they actually plan to do, and that  
2 will provide additional information. But a supply of  
3 credits would be sufficient to meet their needs.

4 CHAIR NICHOLS: It could happen.

5 MR. SHULOCK: Correct.

6 CHAIR NICHOLS: Okay. Thank you.

7 Kathryn Phillips.

8 MS. PHILLIPS: Thank you. Kathryn with Sierra  
9 Club California.

10 And thanks to the staff for everything you've  
11 been doing over the last several years in collaboration  
12 with the federal agencies to develop this very valuable  
13 document.

14 I just want to note that we live in very  
15 interesting times. We may live in more interesting times  
16 after November. But it's really important to remember  
17 that CARB has independent authority to go further than the  
18 federal vehicle regulations go. And part of one of those  
19 things where we've always had that authority is one of the  
20 things that was noted in this report that California is  
21 doing well and, that is, the ZEV mandate.

22 As Simon mentioned and Chuck showed too, and it  
23 has -- it was brought out in the staff's presentation, the  
24 ZEV mandate is one of the most important things that the  
25 State is contributing for accelerating -- developing and



1 accelerating the possibility of getting to a zero-emission  
2 vehicle world. And it's incredibly important for us to  
3 continue that, not just for greenhouse gas emissions; but  
4 I think it's important to remember that the ZEV mandate  
5 began as something to reduce criteria pollutants.

6 And we still have a huge criteria pollutant  
7 problem and that's a public health problem in this state.  
8 And it's essential that we get to a place where we have  
9 zero-emission vehicles to address that.

10 I also want to just point out a few things -- a  
11 couple of things that need fine-tuning; as has been noted,  
12 it's the credit system needs some fine-tuning. Need to  
13 relook at the kind of credits and the travel provisions  
14 that are being given to hydrogen fuel cell vehicles. That  
15 technology has advanced a lot more.

16 I'd also like to note that there is one area that  
17 needs exploration that isn't part of the credit system.  
18 We have been doing some research with our volunteers  
19 visiting dealerships around the country to see what kind  
20 of performance they have in terms of getting vehicles --  
21 electric vehicles, ZEVs, on their lots. We're going to be  
22 releasing a report in August about this. It's kind of  
23 a -- for our volunteers it's been a fun experience, but  
24 it's also been a frustrating experience. And it's  
25 disappointing to see how many dealers don't have vehicles

1 on the lot, even though the manufacturers are making them;  
2 or if they have vehicles on the lot, those vehicles  
3 haven't been charged up. I can't imagine going in to do a  
4 test drive on a gasoline vehicle and not having gas in the  
5 tank.

6 Those are just a few things that you would think  
7 would be sort of basic performance measures that would be  
8 standard.

9 So what I'm hoping is that as the ZEV mandate is  
10 considered for fine-tuning, that the CARB staff explore  
11 what are best practices and give us a -- provide some kind  
12 of -- consider ways to encourage those best practices. I  
13 have no idea what those ways are, but I think it needs to  
14 be included. You need to send a signal to the dealers.

15 Thank you.

16 CHAIR NICHOLS: Thank you.

17 MS. GLADSTEIN: Good afternoon. I'm Margaret  
18 Gladstein from Capitol Advocacy. Although for the record  
19 I should be identified being here on behalf of Global  
20 Automakers.

21 Global Automakers' members represent the 12  
22 international automobile manufacturers who represent 57  
23 percent of new motor vehicle sales and 79 percent of green  
24 vehicles in the golden state.

25 Global Automakers and its members are invested in

1 the long-term goals of reducing greenhouse gas emissions  
2 and improving fuel efficiency and air quality.

3           First we would like to thank the Air Resources  
4 Board staff for their presentation, update, and  
5 collaboration with the federal agencies on release of this  
6 draft TAR. As noted before on many occasions, maintaining  
7 a single national program is a high priority, and  
8 California plays a key role in this program.

9           We continue to support the mid-term evaluation as  
10 a necessary and important check point for ensuring a  
11 strong national program that reduces greenhouse gases and  
12 improves fuel economy.

13           When these challenging standards were set nearly  
14 five years ago, it involved a process that required making  
15 assumptions about future conditions including the cost of  
16 technologies, GHG savings delivered and future fuel  
17 prices, which affect consumer's willingness to buy these  
18 technologies.

19           As the TAR recognizes, many of these assumptions  
20 have changed since 2012, and a reassessment is both  
21 justified and appropriate.

22           This TAR is a crucial step in a data-driven  
23 approach to assess assumptions and evaluate the  
24 implications for future actions. But it is also only a  
25 first technical step in a much longer decision-making

1 process that includes additional analysis and several  
2 opportunities for public input.

3           There remains, however, some concern about the  
4 timing of ARB's activities, such as the December 2016  
5 Board hearing aligning with the federal schedule whose  
6 next milestone is not slated until sometime in 2017.

7           In the continued development of a national  
8 program, we feel that there is a need for federal agencies  
9 and California to collaborate to establish a clear and  
10 coordinated regulatory approach.

11           Global Automakers is currently reviewing the TAR  
12 and will be providing comments to both federal agencies  
13 and California in the coming weeks.

14           Thank you.

15           CHAIR NICHOLS: Thank you.

16           Mr. O'Connell.

17           (Thereupon an overhead presentation was  
18 Presented as follows.)

19           MR. O'CONNELL: Thank you, Madam Chairwoman,  
20 members of the Board. I noted your earlier reference to  
21 NHTSA, their safety mission and autonomy, and I'm going to  
22 resist the urge to comment on that.

23           I am here today to echo much of the commentary  
24 already, and that of the staff position, that if the  
25 TAR -- and that is an interesting acronym. I can't tell

1 if it's ironic or appropriate.

2           The TAR is indeed indicative of something very  
3 important and, that is, the role that the zero-emissions  
4 mandate -- the zero -- or regulations have in pushing  
5 forward zero-emissions technology and, in our case,  
6 electric vehicles in particular.

7           As you know, we've been identifying an issue as  
8 it relates to what we perceive to be a gap in the likely  
9 delivered vehicles in the market going forward and the  
10 regulatory structure we have that enforces that. And if I  
11 could just review quickly.

12   --o0o--

13           MR. O'CONNELL: Just a quick reminder that when  
14 the mandate was -- thank you very much -- when the mandate  
15 was introduced, we originally had a volume mandate and it  
16 specified 10 percent of vehicles by volume by 2003.  
17 Unfortunately we've sort of blown past that.

18   --o0o--

19           MR. O'CONNELL: However, today we have a credit  
20 goal and that can be met with a wide range of sales  
21 options, which, unfortunately, offers the opportunity for  
22 multiple different sorts of arbitrage.

23   --o0o--

24           MR. O'CONNELL: The minimum ZEV credit, as  
25 specified in the regulations, is targeted at 16 percent of

1 sales. And that would be fine, except for the fact that  
2 with ZEVs earning four credits each, we're going to reach  
3 a point where in 2025 where we will meet our credit  
4 requirements but miss our volume requirements, and miss  
5 them significantly. We're looking at 4 percent of volume  
6 given this.

7 --o0o--

8 MR. O'CONNELL: The problem gets even worse when  
9 we consider the quarter million banked credits that we  
10 have already and the effect that that could have on the  
11 market. Frankly, that could take us down to 2 percent of  
12 volume by 2025, meaning effectively either we'll have no  
13 more vehicles on the road in 2025 if we're strictly  
14 looking at the requirements here than we do today.

15 So we commend, as others do, the Board to request  
16 of staff an urgent review of the credit imbalance  
17 situation, that we return with a recommendation for how to  
18 redress this. We think it's vital in the context of our  
19 air quality goals. We think it's vital as far as  
20 encouraging other manufacturers to come into this market  
21 in a meaningful way.

22 This is vital. The mandate is vital -- if I  
23 could make one last point -- because if anything's been  
24 demonstrated by history, our automotive brethren will,  
25 given empirical evidence, do the minimum in order to

1 comply with such regulatory constraints. And if we need a  
2 reference point to that, all we need to do is look at the  
3 recent example of VW's performance in diesel-gate episode.

4 Thank you very much for your attention.

5 CHAIR NICHOLS: Okay. Thank you.

6 John Moffatt.

7 Hi.

8 MR. MOFFATT: Madam Chair, how are you?

9 CHAIR NICHOLS: Good to see you.

10 MR. MOFFATT: Members of the Board, staff. Thank  
11 you for giving me the opportunity to address you this  
12 afternoon. I'm here on behalf -- John Moffatt from  
13 Nielsen Merksamer on behalf of the Alliance of Automobile  
14 manufacturers, whose members include BMW, Fiat-Chrysler,  
15 Ford, General Motors, Jaguar Land Rover, Mazda, Mercedes  
16 Benz, Mitsubishi, Porsche, Toyota, Volkswagen, and Volvo.

17 As was mentioned earlier, the Technical  
18 Assessment Report was just released this week. While  
19 we've found many parts concerning, we have not yet been  
20 able to fully review all 1200 pages of the document; and  
21 therefore today we just want to highlight two things for  
22 the Board: Timeline and the comment period.

23 Regarding the timeline, the TAR is just the  
24 empty-yeast process's first preliminary step, and it  
25 appears to be the only step in which ARB aligns with its

1 EPA and its partners. The federal agencies have stated  
2 that they may issue a final TARs as part of the MTE  
3 process. The federal agencies have also stated that they  
4 anticipate issuing a proposed determination NR and PRM in  
5 2017.

6 If EPA determines that the standards will not  
7 change, EPA will issue a final determination by April 1,  
8 2018, and NHTSA will issue its final rule concurrently.  
9 If EPA determines that the standards will change, EPA and  
10 NHTSA will issue a final joint rule with at least 18  
11 months lead time before the model year 2022.

12 CARB should not prejudge the outcome. Doing so  
13 would contradict the rational intent of the MTE process.  
14 The Alliance requests that CARB cooperate with the EPA and  
15 NHTSA for the entire MTE process, not just the TAR.  
16 CARB's current timing requires the ARB decisions a year or  
17 even more before EPA or NHTSA.

18 For example, ARB stated in the May 2016 Mobile  
19 Source Strategy document that staff will present the  
20 findings of the mid-term review to the Board in 2016 and  
21 will conduct a subsequent rulemaking to modify the  
22 standards if necessary. This is 18 months before EPA's  
23 and NHTSA's final determination and months before even a  
24 proposed determination.

25 If CARB goes forward with its current accelerated



1 schedule, it will issue determinations before the federal  
2 agencies and end up jeopardizing the agreed-upon one  
3 national program.

4           The Alliance requests that the Board reconsider  
5 and better align its actions with timing agreed upon by  
6 the one national program stakeholders. The Alliance would  
7 also ask that the Board reinforce the need for ARB staff  
8 to adhere to the ONP timelines and not get ahead with the  
9 process by writing or proposing new greenhouse gas or  
10 increasing ZEV requirements before EPA, NHTSA, and CARB  
11 joint -- the joint final determination.

12           Last, we're concerned about the relatively short  
13 TAR comment period. The TAR's complexity, scope, and  
14 length require a comment period longer and more reasonable  
15 than the proposed 60 days. Due to all of these factors,  
16 coupled with the dearth of substantive agency feedback  
17 during the TAR writing, the Alliance believes a much  
18 longer comment period is needed, and we expect to submit a  
19 formal request for an extension as soon as possible.

20           Thank you.

21           CHAIR NICHOLS: Thank you.

22           MR. MAGAVERN: Madam Chair and Board members,  
23 Bill Magavern with the Coalition for Clean Air.

24           I've been advocating for California clean cars  
25 since 2001, when first-year assembly member, Fran Pavley,

1 introduced AB 1058, or which the following year became AB  
2 1493 was signed by Governor Gray Davis; and since then  
3 during its implementation has enjoyed the strong support  
4 of Governor Arnold Schwarzenegger and Governor Jerry  
5 Brown.

6           And I think that -- of the many accomplishments  
7 of this Agency, I think the implementation of these  
8 standards absolutely has been a highlight and has really  
9 set a model for the entire nation and really for much of  
10 the world. So I think what you're doing today is very  
11 much carrying on that important work that's been done over  
12 the years.

13           What we glean from this report, a few important  
14 points:

15           First of all, from a national perspective, the  
16 report confirms the feasibility of the greenhouse gas  
17 standards. Although it also reveals that the size class  
18 nature of those standards is a flaw that will cost us some  
19 emission reductions if current trends continue.

20           From a State perspective, it is crucial for  
21 California to retain our authority to set our own  
22 standards stricter than the national standards. We hope  
23 that it's not something that we need to exercise, but we  
24 know from the uneven course of national policy over the  
25 years, that it's been vital for California to retain that

1 authority under the Clean Air Act and to exercise it when  
2 that's been necessary.

3           And then, finally, as many have addressed, the  
4 ZEV standard remains vital for California policy, not only  
5 for advancing the technologies that we need to meet our  
6 greenhouse gas emission reduction goals, but also in order  
7 to keep moving towards attainment of Clean Air Act  
8 standards.

9           And we see that with battery costs declining, the  
10 ZEV standard continues to be feasible, and in fact needs  
11 strengthening. We've seen the analysis that Chuck Shulock  
12 did for NRDC, and we agree with the points that NRDC and  
13 others have made that the ZEV standard is in need of a  
14 tune-up to make sure that we meet the statutory standard  
15 of 1 million ZEVs on the road by 2023 as well the  
16 Governor's goal of 1 and a half million by 2025.

17           Thank you.

18           CHAIR NICHOLS: Thank you.

19           MS. HOLMES-GEN: Good afternoon. Bonnie  
20 Holmes-Gen with American Lung Association in California.  
21 And American Lung Association in California is engaged in  
22 this mid-term review and the ZEV Program because of our  
23 great concern about vehicle pollution that threatens  
24 health and our climate. We're working with other health  
25 organizations and medical groups and our Doctors for

1 Climate Health to fight climate change as a serious health  
2 issue that degrades air quality; increases heat-related  
3 illnesses, respiratory issues; and poses many other  
4 challenges to health and our future.

5           On this mid-term review report, although it's a  
6 very long report, we've had some review. We are pleased  
7 that it does show available technologies to meet the 54.5.  
8 We support that standard and we are urging the strongest  
9 possible federal and state emission and technology  
10 standards to improve fuel efficiency, to reduce greenhouse  
11 gases, and of course urging the agencies to not back down  
12 or delay these important standards to protect public  
13 health.

14           We are very -- we're concerned of course that  
15 California needs to do more. The federal fuel efficiency  
16 standards are a great start. California needs to be  
17 prepared to exercise its own authority of course if there  
18 is any movement to delay or weaken those standards.

19           But we need to do more. We need to continue to  
20 maintain and strengthen our California ZEV Program.

21           Every year, when Cal -- when the -- every year  
22 when the American Lung Association releases our State of  
23 the Air Report, we talk about the millions of individuals  
24 in California who are affected by dirty air. And we talk  
25 about the health damaging impacts of pollution in

1 especially children, who are impacted in key developmental  
2 stages of life. And we get the question: How is  
3 California going to eventually meet federal clean air  
4 standards? How -- what do we have to do? And we always  
5 talk about the critical role of moving to zero emissions,  
6 transitioning to zero emission in all sectors of light and  
7 heavy duty.

8           And we are deeply concerned right now that the  
9 air quality and health benefits of the ZEV Program could  
10 be compromised and falling behind. As discussed by my  
11 colleagues with Natural Resources Defense Council and  
12 other groups, we have seen data that we could be far below  
13 the level of zero-emission cars on the road than we  
14 expected when we -- when we revised this program a few  
15 years ago.

16           So we are joining with others and urging a  
17 review, taking a hard look, and determine what -- what  
18 level of vehicles are we aiming for right now with this  
19 credit glut that seems to be occurring, and what  
20 adjustments would be needed in the zero-emission vehicle  
21 program to make sure that we do achieve that 1.5 million  
22 ZEVs on the road.

23           Thank you for the time. We look forward to  
24 working with you as this mid-term review moves ahead. We  
25 need to get the cleanest zero-emission vehicles on the

1 road ASAP.

2 CHAIR NICHOLS: Thank you.

3 MR. ANAIR: Good afternoon, Chairman Nichols,  
4 members of the Board. My name's Don Anair. I'm the  
5 Research Director of the Union of Concerned Scientist.

6 I just wanted to first acknowledge and recognize ARB's  
7 contribution to this substantial and impressive amount of  
8 evaluation that's represented in the TAR.

9 The program itself, the national program in  
10 California, the advanced clean car standards, are clearly  
11 having an impact both on emissions, oil consumption, air  
12 quality, and consumer choices. I think one of the key  
13 aspects of this is not just the fact that technology is  
14 advancing as we anticipated - in fact, costs are in some  
15 cases lower or in line with what was expected - but  
16 consumers are adopting this technology. An analysis we  
17 did last year looking at 2015 sales of vehicles across the  
18 country, some 10 percent of the vehicles sold last year  
19 actually met or exceeded the standards for 2020 and  
20 beyond. So those vehicles have the technology that's  
21 necessary to comply with these standards in the future and  
22 people are buying them today.

23 And the other point of evidence obviously is that  
24 the automakers are currently overcomplying with the  
25 standards. So consumers are interested in fuel economy

1 and the emissions benefits of these vehicles.

2           Obviously, you know, I think it was pointed out  
3 very clearly that conventional technology innovation is  
4 having a big impact and the compliance with the standards  
5 nationally in 2025 will not require a large amount of  
6 zero-emission vehicles.

7           So that's good news in some sense. But it's also  
8 important that we're moving forward with zero-emission  
9 technologies; and California's leadership is key in that.

10           The two trends I just wanted to -- they were  
11 touched on already by a number of speakers. But the two  
12 trends I think are really critical to look at as  
13 California staff look at the mid-term evaluation coming  
14 before the Board in December.

15           The first is the trend towards larger vehicles.  
16 We know that the standards adjust for that in terms of the  
17 compliance of the automakers, so it's not really an issue  
18 of complying with the standards themselves. But the  
19 overall emissions that we'll see in 2025 will be affected  
20 by that. And so we'd like to ensure that when the Board  
21 discusses this issue in December, that there is a clear  
22 evidence of what that means in terms of the emissions and  
23 what potential options are to address that.

24           The second is of course the rapid and somewhat  
25 unexpected technology advancement in the zero-emission

1 vehicle space. That's leading to -- around what the  
2 actual zero-emission vehicle requirements would be from a  
3 number of vehicles perspective. We -- our own analysis  
4 shows we might achieve about 1 million vehicles by 2025  
5 instead of 1.5. And we think that's critical because it's  
6 not just about 2025, its about being on track to 2030 and  
7 beyond.

8           So I would just finish by asking that, in  
9 December, that as the Board's looking at the mid-term  
10 review, that there are options considered to address any  
11 issues that may arise from either the shift to trucks or  
12 the rapid advancement on ZEV.

13           Thank you.

14           CHAIR NICHOLS: Thank you.

15           And Sekita Grant.

16           MS. GRANT: Good afternoon, members of the Board.  
17 Thank you very much for the opportunity to provide comment  
18 today.

19           My name is Sekita, legal counsel with the  
20 Environmental Equity Team at the Greenlining Institute.  
21 We're a social justice organization advocating on behalf  
22 of low-income communities and communities of color.

23           I'm also making comment on behalf of Communities  
24 for a Better Environment, who are not able to make it here  
25 today.



1           So as our colleagues from the Union of Concerned  
2 Scientists and NRDC and Coalition for Clean Air, American  
3 Lung and others have laid out, there's -- they've done a  
4 lot of great robust research on this topic, and there  
5 appears to be a clear need at this point to do more in  
6 order to reach our ZEV goals; in particular, our goal to  
7 reach 1.5 million zero-emission vehicles on the road by  
8 2025. And our regulations need to do more to drive at  
9 least 15 percent of vehicle sales in California as zero  
10 emission.

11           For us it's really critical from both a health  
12 and equity standpoint. 89 percent of people living in the  
13 State -- in California are living -- people of color  
14 living close to heavily polluted regions, including near  
15 busy freeways and roads as well as for refineries.

16           So the California ZEV policies are incredibly  
17 critical to drive down those emissions, and the Air  
18 Resources Board and other agencies have done a great job  
19 to date in supporting these mandates. At this point we  
20 need to tighten them up to ensure that the ZEV credits are  
21 effective and are really enabling us to reach the 15  
22 percent goal and drive the next generation of  
23 zero-emission vehicle technologies that are widely  
24 accessible. And this is where our organization and  
25 organizations like us are really concerned that we're

1 promoting regulations that are really driving increased  
2 accessibility to low-income communities and communities of  
3 color.

4           So I'll just -- so I'll say that as we're  
5 looking -- as staff is looking at all of this work and  
6 looking to provide revisions that improve the ZEV mandate,  
7 we want to ensure that their -- would support  
8 prioritization of credits to ensure that there's deeper  
9 penetration of this technology for low- and  
10 moderate-income communities and communities of color.

11           And, finally, we recommend - and this is  
12 something we could talk with staff more about - but how  
13 can we increase the transparency of the impacts of this  
14 regulation and others that are working to bring  
15 zero-emission vehicle technologies into the State? Where  
16 are we seeing zero-emission vehicles being used and where  
17 are they not being used? And making sure that we have the  
18 flexibility to make changes necessary to ensure widespread  
19 adoption.

20           So thank you for your consideration.

21           CHAIR NICHOLS: Thank you.

22           That concludes the list of witnesses that we had  
23 on this item.

24           There is no official action to be taken. But  
25 this is a time for some comments and discussions and to

1 give some direction to staff about what we would like to  
2 see coming next. So I'll take it to the Board.

3 Several of you have indicated to me that you've  
4 been thinking about this issue and wanted to weigh in on  
5 it.

6 The first person who contacted me however doesn't  
7 have his hand up, so maybe he wants to wait until the end.

8 Senator Florez, do you want to make a comment  
9 now? Would you rather wait? I know you're...

10 BOARD MEMBER FLOREZ: Thank you. I just wanted  
11 to say thanks to the staff for the great work. And I know  
12 this is mid-term till December. But I guess the issue  
13 would be: What are we doing in the interim?

14 So I would only ask that we take a look at three  
15 items. One would be to look at a floor for actual cars  
16 sold, not credits. So just to come back and give us some  
17 advisory thoughts on a market that is car driven by number  
18 versus kind of credit driven, if you will. We heard a  
19 couple presentations on that earlier.

20 The second thing I would probably ask is that we  
21 start to look at the issue of the credits and the amount  
22 of credits per car. You know, what does that look like if  
23 something is for and something is higher and something is  
24 lower? I guess at some point maybe we can get to a one to  
25 one. But I know that we're far away from that. But I

1 think trying to come back to the Board with something that  
2 will allow us to reflect on what that looks like going  
3 forward.

4           And then the last would probably be the issue  
5 of - we've talked about these - travel provisions that are  
6 expiring in 2018. I know that's for ZEV. But I would  
7 also wonder as you come back in December what that looks  
8 like for kind of the hydrogen side of it as well; you  
9 know, what does that ending look like, if you will,  
10 looking forward? Are we in shape enough to do that going  
11 forward?

12           But those would be three things I would ask staff  
13 to definitely look at, and look forward to hearing from  
14 you.

15           CHAIR NICHOLS: John, you had your hand up. Mr.  
16 Eisenhut.

17           BOARD MEMBER EISENHUT: Thank you.

18           I have comments along the line of Senator Florez,  
19 however without the specificity. But as I look at these  
20 issues, I think not just of what are the possible  
21 outcomes -- or what are the likely outcomes, but what are  
22 the possible outcomes. And the possible outcomes have  
23 been outlined given the number of car credits out there.

24           So as we move forward to our December review, I  
25 request, as we've heard, that the staff look carefully at

1 car credits.

2 That's what I have. Thank you.

3 CHAIR NICHOLS: To Professor Gioia.

4 BOARD MEMBER GIOIA: Yeah. I think there's been  
5 just a fair amount of concern over the fact that it looks  
6 like we're not going to meet sort of the goal of the  
7 number of vehicles we thought would be out on the market.  
8 So I agree, I think allowing staff to take a look at a  
9 suite or -- suite of measures that would help us ramp up  
10 the program to achieve the goal, and especially in light  
11 of the now -- the mid-term 2030 goal, when you're thinking  
12 about how do we align the ZEV goal with the 2030 mid-term  
13 goal.

14 So that's...

15 CHAIR NICHOLS: Okay. Dr. Sherriffs.

16 BOARD MEMBER SHERRIFFS: Yeah. I think I very  
17 much share the sentiments that have been expressed. As a  
18 ZEV owner, I am passionate. I'm not angry. I'm very  
19 passionate.

20 (Laughter.)

21 CHAIR NICHOLS: This is going to be kind of a  
22 watch word in this organization, I can tell going forward.

23 BOARD MEMBER SHERRIFFS: You know, I --

24 CHAIR NICHOLS: T shirts.

25 (Laughter.)

1           BOARD MEMBER SHERRIFFS: You know, I haven't met  
2 a ZEV owner who's not actually thrilled. And I guess  
3 the -- the few that I've heard about it didn't have a  
4 chance to sit down with another ZEV owner and work through  
5 the problems and discover, oh, yes, this is a great place  
6 to be.

7           So, yes, I want -- I want to share this with  
8 everybody.

9           Although it may not exactly be the car for  
10 everybody, I think there is a much, much bigger market out  
11 there.

12           Is a valley resident. This is obviously very,  
13 very important. Every gram of NOx counts. And if we have  
14 a pure electric use, that that makes a difference, that  
15 makes a big difference. So it's very, very important.

16           So, yes, I want to be sure that staff in the  
17 update in December are including options that ensure --  
18 options that would ensure that we get to that 1.5 million  
19 cars. What are some of the ways that we can be sure we do  
20 that?

21           Thank you.

22           CHAIR NICHOLS: Thank you.

23           Any other comments?

24           Professor Sperling.

25           BOARD MEMBER SPERLING: How can I not comment,

1 you know

2 (Laughter.)

3 BOARD MEMBER SPERLING: I actually started  
4 testifying on the ZEV mandate back in the early '90s, well  
5 before I had any relationship with ARB.

6 So just -- so, with that -- just very briefly I  
7 would like to take us back to the basics, why we're doing  
8 this. And the goal of the ZEV Program is to accelerate  
9 the development and commercialization of advanced  
10 technologies, with the clear idea, that clear goal of  
11 making a smooth transition to more efficient and lower  
12 carbon vehicles over time. So as we just saw, that as of  
13 through 2025, just through the greenhouse gas and cafe  
14 standards, we're not likely to have a lot of electric and  
15 plug-in hybrid vehicles and fuel cell vehicles.

16 And as one senior automobile executive said in a  
17 public meeting not so long ago, he said -- he says, "I get  
18 it about the ZEV Program." He said, "If we don't have to,  
19 we're going to procrastinate. We're going to get to 2025  
20 and we're going to say, 'Oh gosh, you know, we don't have  
21 the technology. You've got to give us a break. You can't  
22 tighten up the greenhouse gas standards, the cafe  
23 standards.'"

24 And so this is kind of what we're doing is making  
25 sure we do have that smooth transition so we can continue

1 on that path of 4 percent or so improvement per year in  
2 greenhouse gases.

3           So bringing it back to the ZEV Program, the  
4 question is: Is the ZEV Program as it's structured now  
5 going to provide us what we need? And I think a lot of  
6 the testimony here was -- certainly to me was persuasive  
7 that we really do need to go back and look at it and see  
8 if some changes should be made in the formulas, how it's  
9 structured. And I know -- you know, one thing that I know  
10 the staff is working on is taking those analyses by Tesla  
11 and by NRDC and saying okay, you know, do we agree with  
12 those? What are the different scenarios, you know, that  
13 lead to those kind of numbers? And then we have to  
14 determine, is 6 percent, if it is 6 percent, is that  
15 enough? And is that putting us on that trajectory? And I  
16 think that's a determination we're going to have to make.

17           And I would point out another reason for the  
18 tune-up -- and just like I think TAR is a bad name for,  
19 when you're talking about --

20           CHAIR NICHOLS: Many reasons a bad acronym.

21           (Laughter.)

22           BOARD MEMBER SPERLING: Yeah, bad acronym.

23           And tune-up isn't exactly the right one for  
24 electric vehicles either.

25           But --



1 (Laughter.)

2 BOARD MEMBER SPERLING: Sorry, Simon.

3 (Laughter.)

4 BOARD MEMBER SPERLING: But, you know, those  
5 tune-ups are -- have to do with the idea that for this to  
6 be successful, we need the technology to spread across the  
7 industry, across the companies, and across vehicle types.  
8 And right now, you know, one shortcoming of the ZEV  
9 Program is it really heavily incentivizes companies to  
10 only have subcompact and compact cars, because that's the  
11 easiest, cheapest way to make it. And so there's a few  
12 things like that I think that we need to re-examine.

13 Thank you.

14 CHAIR NICHOLS: Okay. Thank you.

15 I think people especially appreciate hearing from  
16 you on these issues because you have been involved in the  
17 program from the very beginning from the outside. I  
18 didn't get involved until I came back on the Board as an  
19 appointee of Governor Schwarzenegger in 2007. And not  
20 long thereafter, in the summer of 2008, I was approached  
21 by a representative of the auto industry to have some  
22 discussions about greenhouse gas emission standards and  
23 where things might be headed, that led ultimately I think  
24 in a pretty direct line to the adoption of the standards  
25 that we're now at the point of reviewing.

1           So I feel a sense of ownership of this program.  
2   And I am very mindful of the concerns of the industry that  
3   we give the process its appropriate due and that we do all  
4   the kinds of analysis that need to be done. At the same  
5   time, I have been really impressed and moved by the level  
6   of analysis and comments that we have been getting about  
7   the ZEV Program and about the role of the ZEV mandate.

8           And so I do think - and I'll give them a chance  
9   to say a few words, you know, before we end this - that  
10   the staff is now hearing loud and clear and thinking  
11   themselves that by the time we get back together again in  
12   December to address these general topics, that they need  
13   to have identified some areas where they feel ARB could  
14   really improve the program so that it will accomplish its  
15   goals.

16           Recognizing that this is not the only place or  
17   the only way in which we're going to be attempting to move  
18   the whole transportation system in the direction of  
19   advanced technology and zero-emissions; that we have to  
20   mobilize consumer support, we have to make sure that we  
21   are working with the cities which in many cases are  
22   leaders in the provision of infrastructure and all kinds  
23   of other incentives for zero-emission transportation, as  
24   well as our partners in the air districts.

25           And so there's a lot going on on this front. But

1 the mandate itself does play a critical role and so we  
2 need to make sure that it's doing what it needs to do.

3 I believe Mrs. Berg had some additional comments.

4 VICE CHAIR BERG: I really appreciate your  
5 wrap-up. And I appreciated your comments this morning  
6 where you were saying that there is a group that is really  
7 looking at how to take this commercialized and looking at  
8 it holistically. I will join my fellow colleague. I am  
9 an avid zero-emission car owner and love my Tesla, before  
10 that loved my Leaf. And so I am really looking at this  
11 holistically as to how do we really develop this  
12 marketplace to have a transformation. And it has three  
13 legs to it. We obviously have one of the most important  
14 legs, but as we have very exciting vehicles.

15 And addressing the other things that some of my  
16 other colleagues just identified. The infrastructure's  
17 coming along, albeit that people could talk about where  
18 some of the shortcomings are over the last five years.  
19 It's remarkable where we are there.

20 And we know that it's time to see how to rev up  
21 the consumer side. So I'm very excited about that.

22 And congratulations. Good report, I thought.

23 CHAIR NICHOLS: Yes, indeed.

24 Do you want to make any final comments, Dr.  
25 Ayala?

1 DEPUTY EXECUTIVE OFFICER AYALA: Well, sure, I'd  
2 be happy to, Chair Nichols. And perhaps just briefly to  
3 acknowledge that everything that the Board said today is  
4 entirely consistent with our goals and expectations for  
5 December. We hear you loud and clear. We fully  
6 understand that you want us to be comprehensive and  
7 completed and bringing you our best understanding of where  
8 ZEVs are going to be, not only in 2025, but perhaps most  
9 importantly, beyond 2025, so we are very much working on  
10 that.

11 Again, also on target, the fact that we are going  
12 to be working on scenarios similar to what you heard from  
13 NRDC and Tesla. The reason we haven't done that is  
14 because we've been a little busy.

15 (Laughter.)

16 DEPUTY EXECUTIVE OFFICER AYALA: But now that  
17 we've got the TAR done, it really becomes the most  
18 critical data point so that we can move forward on the  
19 analysis.

20 I do want to remind you that when we come back in  
21 December, we're going to do three things. Not only are we  
22 going to be -- bring you our assessment on ZEVs. We have  
23 to bring you back our assessment on the greenhouse gas  
24 standards; and most importantly perhaps to some of you is  
25 our assessment on the PM standards for California. So

1 again it's a multi-element mid-term evaluation that  
2 applies to California.

3           So that's the reason we've been working hard on  
4 all three fronts.

5           The last thing I'll say is - because I want to  
6 make sure that you're confident - the comment from the  
7 Alliance about the inconsistency of the timing: Of course  
8 we recognize we don't want to fall out of line in terms of  
9 the way that the process is going to continue at the  
10 federal level. We are going to continue to work with our  
11 federal partners. We are going to continue the process,  
12 so that as they march towards a final determination, we  
13 can bring you back whatever staff recommendation we're  
14 going to end up bringing you back.

15           What we bring back in December, it is going to be  
16 as definitive as we can, as clear a picture of where we  
17 think we need to go. But it will not be regulatory  
18 changes. Regulations to the extent that they need to be  
19 amended, changed, renewed, what have you, we obviously  
20 need to come back with those in 2017, which is exactly the  
21 timing that we think our federal partners are going to be  
22 working on as they get to the final determination on the  
23 standards.

24           So we get it. We know what you want. We  
25 understand the industry concern. And, again, we just want

1 to go back to work and bring you back the best assessment  
2 we can in December.

3 CHAIR NICHOLS: Great. Well, once again,  
4 December's going to be an exciting Board meeting.

5 (Laughter.)

6 CHAIR NICHOLS: I don't know how we do it, but every  
7 year we manage to finish up the year with a bang.

8 Okay. Thanks so much. We will look forward to  
9 that.

10 We have -- does the court reporter or anybody  
11 else just need a stretch or -- yeah, maybe five minutes.

12 Okay. Five-minute break. And then we'll move on  
13 to zero-emission transportation and near-zero-emission  
14 transportation, a related issue. And then finally  
15 spark-ignition engines at the very end. Okay.

16 (Off record: 3:01 p.m.)

17 (Thereupon a recess was taken.)

18 (On record: 3:07 p.m.)

19 CHAIR NICHOLS: All right. Ladies and gentlemen,  
20 come back to your seats please. Break time is over.  
21 We're moving on.

22 We're going to move through the informational  
23 update on overcoming barriers to zero- and  
24 near-zero-emission transportation. I think we can move  
25 through this report briskly, but this is a really

1 important topic that the Board needs to be updated on.

2 Section 7 of SB 350 charges ARB with conducting this  
3 study on understanding the barriers that low-income  
4 residents face to accessing zero- and near-zero-emission  
5 transportation options in their communities. So this  
6 effort is in support of one of the broader goals of  
7 increased transportation electrification throughout  
8 California.

9 The study represents an opportunity not only to  
10 better understand transportation challenges in some of  
11 California's most impacted communities, but also  
12 potentially to identify means and opportunities for  
13 overcoming these barriers in order to promote  
14 transportation independence and healthier communities.

15 Mr. Corey, could you please -- could you please  
16 begin this item.

17 EXECUTIVE OFFICER COREY: Yes, I will do that,  
18 Chair. And as you noted, this is an informational update  
19 on a study, a report that will come back to the Board  
20 later this year.

21 So with that, I'm going to ask Ashley Dunn from  
22 the Innovative Strategies Branch to give the staff  
23 presentation.

24 Ashley.

25 (Thereupon an overhead presentation was

1           Presented as follows.)

2           AIR POLLUTION SPECIALIST DUNN: Thank you, Mr,  
3 corey and good afternoon Chair Nichols and members of the  
4 Board.

5           Today I will be providing an informational update  
6 on the study ARB has been developing for overcoming  
7 barriers to zero- and near-zero-emission transportation  
8 options for low income residents. This effort is a result  
9 of Senate Bill 350, the Clean Energy and Pollution  
10 Reduction Act which passed last year.

11                               --o0o--

12           AIR POLLUTION SPECIALIST DUNN: Senate Bill 350  
13 is critical climate and energy legislation for helping  
14 California move towards meeting our emission reduction  
15 goals.

16           A large portion of the bill calls for widespread  
17 transportation electrification across California, and  
18 requires several studies to be developed in support of  
19 energy and transportation goals.

20           Today we are discussing the study ARB has been  
21 developing. The bill requires that on or before January  
22 1, 2017, ARB, in consultation with the Energy Commission  
23 and with input from relevant state agencies and the  
24 public, shall develop and publish a study on the barriers  
25 for low-income customers to zero- and near-zero-emission



1 transportation options, including those in disadvantaged  
2 communities, as well as recommendations on how to increase  
3 access to zero-emission and near-zero-emission  
4 transportation options to low-income customers, including  
5 in disadvantaged communities.

6           Based on discussions with stakeholders who  
7 advocated to include this study in the bill and the  
8 limited time frame we're working under, we're framing this  
9 effort as a guidance document with clear barriers,  
10 opportunities, and recommendations. I will be referring  
11 to this study as a guidance document for the remainder of  
12 the presentation.

13                           --o0o--

14           AIR POLLUTION SPECIALIST DUNN: This guidance  
15 document is being developed in close coordination with the  
16 Energy Commission with the goal of increasing the  
17 understanding of the barriers that low income residents  
18 face to access zero- and near-zero-emission transportation  
19 options.

20           We're defining low income as residents who have  
21 income levels less than or equal to 225 percent below the  
22 federal poverty limit, which is in line with ARB's current  
23 low-carbon transportation investment projects such as the  
24 Enhanced Fleet Modernization Program, or EFMP.

25           In addition, the bill requires that we define

1 disadvantaged communities as identified by the  
2 Environmental Protection Agency as a result of Senate Bill  
3 535. Therefore, we will be using CalEnviroScreen  
4 designations.

5 --o0o--

6 AIR POLLUTION SPECIALIST DUNN: We already know  
7 that low-income residents across California have many  
8 unique barriers to accessing transportation, including  
9 clean transportation. Of course, the current cost of  
10 zero- and near-zero-emission technology would be one of  
11 the most obvious barriers within low-income and  
12 disadvantaged communities, and in the mainstream vehicle  
13 market itself as a whole.

14 Access the zero- and near-zero-emission vehicles  
15 is an important transportation option. But in order to  
16 provide a more comprehensive understanding and gain  
17 clearer insight into all of the barriers, we're conducting  
18 a review of multiple mobility options.

19 We're characterizing zero- and near-zero-emission  
20 transportation options as more than just new and used cars  
21 and trucks, though this is an important component. We are  
22 exploring many barriers to access across a broad spectrum  
23 of transportation options, including active  
24 transportation, public transportation, and ride sharing.

25 We want to shed light on the main hurdles

1 low-income residents face, in particular when it comes to be  
2 able to access clean transportation within their  
3 communities.

4 In addition, we will also be looking into the  
5 barriers to having infrastructure in place in order for  
6 these technologies to be within the low income  
7 communities.

8 --o0o--

9 AIR POLLUTION SPECIALIST DUNN: One of our main  
10 goals is developing this guidance document, not only  
11 identify the barriers and opportunities, but also to  
12 provide specific actionable recommendations. The intent  
13 of these recommendations will be to help inform future  
14 policy and investments in clean transportation programs.  
15 For example, the results would help guide investments in  
16 equity projects such as EFMP, school buses, and transit.

17 Also, this guidance document could be utilizing  
18 by communities as part of their land-use and  
19 transportation planning processes by local and  
20 state-elected officials, or by others to help guide future  
21 policies targeted at providing increased transportation  
22 access to low-income residents and disadvantaged  
23 communities.

24 Since research on zero- and near-zero-emission  
25 transportation options is fairly new, we believe that this

1 work will help foster an increased understanding and  
2 inform future efforts on barriers and opportunities.

3 --o0o--

4 AIR POLLUTION SPECIALIST DUNN: We want to  
5 acknowledge all the great work that has already been done  
6 to identify and address transportation challenges  
7 throughout the State. Staff continue to review the  
8 transportation documentation and resources to ensure we  
9 are building upon available research and filling any gaps  
10 identified to increase access to low-income residents.

11 As an example, we have been working with  
12 transportation agencies such the California Transportation  
13 Commission to better understand Regional Transportation  
14 Planning Guidelines and their Active Transportation  
15 Program, along with how we can add this effort with our  
16 guidance document.

17 --o0o--

18 AIR POLLUTION SPECIALIST DUNN: Senate Bill 350  
19 requires that ARB consult with relevant State agencies and  
20 the public as we develop this guidance document, which is  
21 a process that is very much underway.

22 Since the beginning of this year, staff has been  
23 conducting an extensive outreach effort across the State  
24 to make sure we are being as inclusive as possible and  
25 will continue to do so moving forward. So far, we've

1 reached out to low-income residents; many State, local,  
2 regional, and metropolitan planning organizations and  
3 transportation agencies; air districts; environmental  
4 organizations; environmental justice; equity; and advocacy  
5 groups. It's important to us to develop and maintain an  
6 open public process and encourage continued input into the  
7 main barriers and opportunities in which we should be  
8 focusing our efforts this year. We appreciate all of the  
9 support and the engagement that we have received for this  
10 effort to date.

11           Though we have consulted with many stakeholder  
12 groups and agencies so far, it's critical that this  
13 engagement in the process continue to allow for staff to  
14 complete a more thorough review.

15                           --o0o--

16           AIR POLLUTION SPECIALIST DUNN: In addition to  
17 working with public agencies and stakeholders, staff is  
18 also collaborating closely with multiple programs across  
19 ARB and will continue to do so in the long term. We see  
20 this as an important opportunity to share lessons learned  
21 across our programs and our Agency and build upon a  
22 available transportation research and our successes.

23           The next slide will provide an overview of the  
24 progress we have made on this effort and ongoing  
25 milestones.

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AIR POLLUTION SPECIALIST DUNN: As can you see, we've been working very quickly on accomplishing our goals for this effort.

We're currently in the community-based meeting phase of the project. Along with conducting a literature review, this is our primary method of gathering input from low-income residents on barriers and opportunities to transportation access.

As discussed previously, staff sees this effort as ongoing past 2016. We want the opportunity to be able to build upon our report in 2017 as additional information becomes available, particularly as a result of our continued meetings with low income residents across the State, as well as our lessons learned from low-carbon transportation programs currently being developed and administered.

Prior to finalize the study, we anticipate coming back to the Board with an informational update specific to our findings, recommendations, and next steps.

--o0o--

AIR POLLUTION SPECIALIST DUNN: To date, ARB staff have held a project kick-off discussion and two roundtable meetings with stakeholders.

1           We are also invited as guests for a  
2 community-based meeting in June hosted by Communities for  
3 a Better Environment in southeast Los Angeles community of  
4 Huntington Park. We heard directly from low-income  
5 residents that live within the community and the  
6 surrounding areas, which provide an important insight into  
7 the barriers that exist within that community.

8           We've organized many one-on-one conference calls  
9 and meetings with interested stakeholders in order to  
10 provide additional information on this project, receive  
11 input, and gain a better understanding of the main  
12 transportation access barriers across transportation modes  
13 within the various regions. We plan to continue with this  
14 personal outreach effort.

15           Staff is also planning for additional  
16 community-based meetings in partnership with local  
17 organizations and some more roundtable discussions through  
18 the fall. Additional meetings may be held past the fall  
19 of this year; but due to the time frame we're allotting  
20 for review and comment of the guidance document itself,  
21 the information that is gathered would be included as part  
22 of a supplemental report.

23                               --o0o--

24           AIR POLLUTION SPECIALIST DUNN: Given our desire  
25 to better understand the diverse nature of transportation

1 access barriers, we are focused on multiple low-income and  
2 disadvantaged communities across California, which  
3 includes rural, tribal, and urban areas.

4 For each of the community-based meetings, staff  
5 will develop case studies. These case studies will help  
6 highlight the main barriers and opportunities to  
7 transportation access allowing for review of issues that  
8 are community specific.

9 --o0o--

10 AIR POLLUTION SPECIALIST DUNN: Staff is focusing  
11 their review on five main barriers categories. The  
12 barrier categories were identified through discussions  
13 with the public, stakeholders, and feedback we've already  
14 received from some of the Board members. These categories  
15 include recurring themes we've identified in our  
16 preliminary review on issues that most directly impact  
17 transportation access for low-income residents, including  
18 disadvantaged communities. We look forward to additional  
19 input and will continue to refine the scope of our work  
20 and review through the fall.

21 Each of the barrier categories, including example  
22 characteristics we are reviewing, are described further in  
23 the next five slides.

24 --o0o--

25 AIR POLLUTION SPECIALIST DUNN: One of the



1 primary barrier categories is how accessible  
2 transportation modes are; proximity in terms of physical  
3 proximity from home, work, or school; how the different  
4 modes are connected to each other; and also whether  
5 affordable housing is located close to transportation  
6 centers. Benefits to overcoming some of these barriers  
7 include increased access to goods and services, employment  
8 opportunities, and health care.

9           For example, being able to ride a bike for the  
10 first or last mile of your journey may make the difference  
11 when it comes to one's ability to ride public  
12 transportation.

13           Another example is having access to technologies,  
14 such as being able to use a smartphone and on-line banking  
15 which can impact whether or not someone can access  
16 information or participate in ride-sharing option  
17 opportunities.

18                           --o0o--

19           AIR POLLUTION SPECIALIST DUNN: This category  
20 explores how mode choices are made based on what's  
21 available and how much transportation costs are, not just  
22 for low-income residents and disadvantaged communities,  
23 but really for all residents in California. A substantial  
24 portion of a household's budget may be required to pay for  
25 daily transportation costs, so the type of transportation

1 options that are available does matter. In addition,  
2 we'll look at other barriers such as the quality of  
3 transit and gaps in transportation services or  
4 connectivity that impacts residents.

5 --o0o--

6 AIR POLLUTION SPECIALIST DUNN: It's important to  
7 note that not all transportation barriers or opportunities  
8 are created equal across California. Each individual  
9 community has unique needs and barriers to access  
10 transportation and potentially differing solutions which  
11 can depend on factors such as regional or geographical  
12 differences. This is why it's critical that our case  
13 studies include different regions across the State and  
14 corporate low-income resident feedback from rural, tribal,  
15 and urban communities. Although the barriers we identify  
16 may be unique, similar communities will benefit from the  
17 review being conducted.

18 Consistent with the first barrier category,  
19 community-based needs also includes review of some of the  
20 public health and safety challenges at the community  
21 level.

22 --o0o--

23 AIR POLLUTION SPECIALIST DUNN: Another important  
24 barrier category that we have identified, which is also a  
25 tremendous opportunity, is transportation education and

1 outreach. This category includes awareness of  
2 transportation options, accessibility reliability of  
3 information, and exposure to cleaner alternative modes.

4 Staff has found that there is a gap in  
5 information regarding public transportation availability  
6 and other alternative modes, including these modes that  
7 are used -- and including how these modes are used and how  
8 they're connected with each other.

9 Overall, access to up-to-date transportation  
10 information is critical, in addition to ensuring this  
11 information is in a place that low-income residents  
12 frequent, such as the Post Office, shopping centers, or  
13 other public places.

14 Further exposure to cleaner advanced technologies  
15 and cleaner transportation options can reduce fear and  
16 misunderstandings and increase confidence in these  
17 transportation modes.

18 --o0o--

19 AIR POLLUTION SPECIALIST DUNN: We cannot discuss  
20 barriers to transportation access without talking about  
21 planning infrastructure and investment. Although progress  
22 has been made, there are specific needs for updating  
23 existing transportation systems and communities to  
24 accommodate zero- and near-zero-emission transportation  
25 modes.

1           For example, there are currently barriers in many  
2 locations across the State to having livable, walkable  
3 communities that are centered around multiple  
4 transportation options.

5           As we look at opportunities to increase access  
6 for low-income residents, as well as the disadvantaged  
7 communities, we must consider the potential air quality  
8 impacts as well as the cost. This is an area we will  
9 continue to explore in close coordination with the Energy  
10 Commission and other transportation agencies.

11           For all of the barrier categories we will  
12 continue to refine the characteristics we are exploring as  
13 much as feasible. What has become clear is that there's a  
14 silver bullet or a singular solution to increasing  
15 transportation access to overcome barriers for low-income  
16 Californians.

17                           --o0o--

18           AIR POLLUTION SPECIALIST DUNN: In conclusion,  
19 there's much work ahead of us this year and in the future.

20           Recommendations for increased access will be  
21 developed based upon our continued work.

22           We anticipate holding a roundtable discussion or  
23 a meeting in mid-September to present our preliminary  
24 findings and recommendations to the stakeholders. We will  
25 present the recommendations to the Board and release the

1 guidance document in December of this year.

2 Staff are hoping that once the guidance document  
3 is released, we can return to the communities in which we  
4 attended the meetings and provide a feedback loop as to  
5 how their input was incorporated into the process.

6 We would also want to continue working with the  
7 stakeholders along with State and local agencies on an  
8 ongoing basis to ensure we support efforts to provide  
9 clean transportation options to low income people  
10 throughout the State.

11 I would now like to introduce representatives  
12 from the Energy Commission and The Greenlining Institute  
13 who will be speaking today just briefly.

14 First we have Alana Mathews, a public advisor  
15 with the Energy Commission, who we've been working with  
16 very, very closely and has been instrumental in our  
17 efforts to coordinate the SB 350 studies that are ongoing  
18 both on the energy side as well as transportation.

19 Second will be Sekita Grant representing The  
20 Greenlining Institute. She has also been working with us  
21 very closely since the beginning of this year, and has  
22 provided critical insight for us in terms of some of the  
23 main challenges and opportunities that low-income  
24 residents are facing.

25 Alana, would you please come to the podium.

1 MS. MATHEWS: I'm here.

2 CHAIR NICHOLS: She's there.

3 AIR POLLUTION SPECIALIST DUNN: Oh, she's there.

4 (Laughter.)

5 MS. MATHEWS: Good afternoon. Is this on?

6 Good afternoon, Chair Nichols and the rest of the  
7 Board members. I -- again, I'm Alana from the California  
8 Energy Commission. I'm the public advisor and I'm leading  
9 the 350 barrier study that we're doing. And we have been  
10 working together since day one. Ashley has been kind  
11 enough. But we both did our scoping meetings and we both  
12 participated together

13 And from our -- our kick-off meeting was June  
14 3rd. So we decided to approach this in four different  
15 ways or -- basically four different steps. First we did a  
16 literature review to understand what's out there to cover  
17 the areas of the report that we're mandated to look at,  
18 which includes energy efficiency and weatherization  
19 investments, contracting opportunities for small  
20 businesses in disadvantaged communities, and access and  
21 barriers to renewable technology; and then ultimately  
22 making recommendations.

23 So after we did a literature review to see what's  
24 out there, we are now in sort of the second phase, looking  
25 at a gap analysis, seeing what information we feel like we

1 really need to make very meaningful and substantial  
2 progress in these areas.

3           The third part is our public engagement, which is  
4 a series of public workshops. So they're stakeholder  
5 workshops. We're going to have a technical workshop where  
6 we have the opportunity to hear from local governments,  
7 industry, academia, as well as environmental justice /  
8 environmental equity groups. And then we're having  
9 community meetings.

10           So we have at least four meetings scheduled  
11 throughout the state. We will have at least one of our  
12 Energy Commissioners present.

13           They will be in Riverside, Fresno, Oakland and --  
14 I'm sorry -- Los Angeles. Then we also will be having a  
15 joint workshop with ARB in Ukiah so that we can make sure  
16 we covered the energy barriers with our tribal  
17 communities. And Ukiah was identified because they're one  
18 of the regions where we need -- they need -- they thought  
19 they needed the most help.

20           So we are certainly also planning to reach out to  
21 all of the tribes in the form of a survey so that we can  
22 at least get some input. Because depending on the  
23 resources a tribe has and their location and topography  
24 and what kind of issues they're facing, we will then in  
25 September have our draft workshop so that we can get

1 feedback on the barriers we've identified, what we've  
2 incorporated, and to look at our recommendations which is  
3 the final fourth phase of what our study will look like.

4 And is there anything else you want me to cover?

5 AIR POLLUTION SPECIALIST DUNN: (Shakes head.)

6 MS. MATHEWS: If you have any questions. I don't  
7 know if I'm missing anything, Ashley. But we're just glad  
8 that we're able to work together.

9 Oh, I should mention also that we have had the  
10 opportunity to attend some of the EJAC community scoping  
11 meetings in that there is a small portion that talks about  
12 energy. And so for those where we've had an opportunity  
13 to engage in the questions, I've actually gotten a lot of  
14 successful -- or very good useful information that can go  
15 in our report. So those are still going on. So to the  
16 extent that I have staff that can go, we will attend.

17 And, again, Ashley and I, we just continue to  
18 coordinate and share ideas about how we can be effective  
19 going into communities, understanding what the barriers  
20 are so we can really have meaningful recommendations at  
21 the end.

22 Thank you.

23 CHAIR NICHOLS: Thank you.

24 MS. GRANT: Hi. Hello. Sekita Grant again with  
25 the Greenlining Institute. Thank you. Very excited to



1 talk about this topic.

2           Also a representative from Coalition for Clean  
3 Air asked if I could make remarks on behalf of that  
4 organization as well.

5           So the first thing I have in my notes to say is  
6 Ashley Dunn is awesome.

7           (Laughter.)

8           MS. GRANT: I could just leave it at that.

9           (Laughter.)

10           MS. GRANT: No, but it's been a pleasure working  
11 with Ashley and her team on this project. She's been  
12 incredibly responsive, dedicated, professional, organized.  
13 As you can see from her report, her presentation on this,  
14 it's been a really great process. And I think more  
15 importantly, Ashley's very genuinely passionate about  
16 these issues, which makes a huge difference in terms of  
17 kind of the output for a study like this.

18           And have heard similar feedback from other  
19 attendees of outreach events, and it's really having a big  
20 impact I think in the community, which I'll talk a little  
21 bit more about.

22           And so I'd like to acknowledge and really  
23 appreciate the close collaboration with the Energy  
24 Commission on both of these parallel studies. I think  
25 other folks are really impressed with this level of

1 collaboration as well. But there's so much -- we're  
2 really dealing with the same target group, which is  
3 low-income communities, communities of color,  
4 disadvantaged community. And so to the extent that we are  
5 more collab -- the state is more collaborated in the way  
6 that we engage with these communities, it becomes a lot  
7 more impactful. So we're really excited to see that.

8           We're also excited to see staff is really  
9 supporting a comprehensive approach to the 350 study.  
10 We're looking -- State is looking very closely at  
11 electrification and electric vehicle opportunities as well  
12 as looking at complete streets and public transit and  
13 biking, along with other mobility options that could be  
14 available for low-income communities.

15           And then just to speak a little bit more about  
16 the community outreach. It has been very robust and  
17 successful, I'd say, to date. It's really helping the Air  
18 Resources Board produce a community-driven study, which I  
19 think for community groups is a really big deal and folks  
20 are very excited about it.

21           And as Alana alluded to, there's been some both  
22 deliberate and kind of a little bit accidental overlap  
23 between what's happening with outreach on this 350 study  
24 and what's happening on outreach with the Environmental  
25 Justice Advisory Committee, of which I'm a member. We

1 just had a meeting -- The Environmental Justice Advisory  
2 Committee just had a really successful meeting in Oakland,  
3 and we had a great turnout.

4 I led the transportation group deep dive  
5 discussion and it was great. And folks were asking -- the  
6 community was asking questions about how do I get into a  
7 electric vehicle, how can I make sure my public  
8 transportation is frequent enough and safe and accessible;  
9 and really asking questions that are relevant to the  
10 scoping plan and also relevant to access to clean mobility  
11 options, which is really the mandate under the 350 study.

12 So It's really -- it's cool to see. And the  
13 communities are representing -- are responding very  
14 positively to the efforts of the Air Resources Board and  
15 the Energy Commission. And so it's -- it's not -- you  
16 know, it's the right thing to do, it's great, and it's  
17 also just having these -- it's really going to have very  
18 lasting impacts I think for the State relationship with  
19 disadvantaged communities and underserved communities.  
20 And these are, from a political standpoint from what we  
21 see in our organization, the same communities that are  
22 manipulated by the oil industry and are really used in  
23 pushing their political agenda. And so this type of  
24 engagement and relationship building with community groups  
25 in communities is really impactful.

1           Let's see. I think I've covered about -- that's  
2 about it.

3           So we really look forward to what comes out in  
4 the draft report. We're excited to see really bold and  
5 actionable recommendations. And just happy to be engaged  
6 and appreciate staff's work on this.

7           Thanks.

8           CHAIR NICHOLS: Thank you.

9           Does that complete the staff presentation?

10          AIR POLLUTION SPECIALIST DUNN: (Nods head.)

11          CHAIR NICHOLS: We don't have anybody who signed  
12 up to speak to us from the public. But I think a couple  
13 of our Board members wanted to comment about it.

14          This was a challenging assignment to try to  
15 conceptualize and figure out what it meant and how you  
16 could do it in a way that complemented other work that  
17 we're doing. I think this has been a very useful  
18 exercise, and I can see a lot of good that's already  
19 starting to emerge. But I would like to ask both Diane  
20 and Dean to comment a little bit further as to how they  
21 see this effort going since both of them have taken on  
22 some specific responsibilities for overseeing the  
23 environmental justice aspects of our program.

24          So I could start with you.

25          BOARD MEMBER TAKVORIAN: Thank you very much.

1           I just wanted to first I guess build off of  
2 Sekita's comments and thank the staff who have been  
3 staffing the EJAC and the workshops that are going around  
4 the State.

5           We had ours in San Diego a week ago. It was  
6 really successful. I know Oakland and San Bernardino were  
7 successful as well. I want to thank Richard and Floyd and  
8 Trish and everybody else who has been really leading to  
9 make those really great conversations. I think people  
10 really felt listened to, and there was lots of  
11 conversation about transportation.

12           So the intersection's really there.

13           And then also to add my thanks to the staff that  
14 are here, Ambreen and Annmarie and Violet, who also came  
15 to San Diego and I know are going other places to engage  
16 in a conversation about the low-carbon transportation  
17 fund. And again great intersection.

18           So it seems like those -- the scoping plan, the  
19 transportation fund, SB 375, all of this is really coming  
20 together I think at least in our minds - and we'll see how  
21 it all comes together. Ultimately that all of these  
22 things are definitely related.

23           And I want to say about the study specifically  
24 that I really appreciated your understanding of social  
25 inequities. I mean, this is a huge thing to get your arms

1 around. And I feel like you're doing it in a really  
2 respectful way and one that really takes into account the  
3 challenges that are in our communities.

4           You know, you're looking at issues about who has  
5 a smartphone, and not assuming that everybody can get on a  
6 computer or get on their smartphone or that they have a  
7 credit card or that they have a grocery store in their  
8 neighborhood or that it's safe for them to walk from the  
9 transit stop or it's safe for them to ride their bike  
10 either because of, you know, criminal activity or because  
11 the road is so messed up that they can't actually walk or  
12 ride safely. So all of those things are really about  
13 social injustice and it's a lot to take into  
14 consideration.

15           And I appreciated your broad definition of clean  
16 transportation. It's not about getting everybody into a  
17 ZEV, with all due respect to those. It's just not going  
18 to happen for everyone. It shouldn't happen. I mean, we  
19 should have clean transportation in other ways that we're  
20 moving people around.

21           And I think ultimately this is related to  
22 land-use and transportation policies and practices. So I  
23 kind of anticipate that navigating the governmental and  
24 regulatory barriers associated with that might be the  
25 biggest hurdle of all. So I wonder whether when you go

1 back to communities that you've heard from - and I know  
2 you're talking with agencies as well - if there can't be  
3 some joint collaborative meetings, both with the  
4 stakeholders and with the agencies, so that at a local and  
5 regional level essentially CARB is helping to facilitate  
6 those conversations with the local agencies and maybe  
7 laying the groundwork for what will come next, be that  
8 state policy, local policy, you know, regional practices;  
9 but any way that I think we can inform and facilitate that  
10 to go forward. So just a suggestion.

11 Thank you very much.

12 CHAIR NICHOLS: Great.

13 Senator Florez, did you want to add. And then  
14 Supervisor awe Gioia.

15 Dean.

16 CHAIR NICHOLS: No. Okay. Pass. You're  
17 allowed.

18 All right. John.

19 BOARD MEMBER GIOIA: Just to add. I appreciate  
20 that you're really delving deep into this issue. And I  
21 think the success also really depends upon being in  
22 contact with the right organizations and communities. And  
23 of course, you know, I'll offer for the Bay Area at least  
24 separately -- it sounds like you're talking to a number of  
25 organizations, but I'll offer some other thoughts.

1           The one item I assume your dealing with as well,  
2 you talk about infrastructure, is this -- there is a lack  
3 of EV charging infrastructure more often, more often in  
4 lower income communities. And one of the areas we see a  
5 lot the gap in multi-family housing. A lot of lower  
6 income residents who live in -- tend to live in more  
7 multi-family housing, let's say, that's been identified as  
8 a major gap in terms of the absence of EV charging. And I  
9 know the utility companies have had proposals before the  
10 PUC to put in more charging and prioritizing multi-family  
11 as one of those areas. I don't think PG&E's reached  
12 final. Theirs hasn't been approved yet, but the other two  
13 have.

14           So I do think that remains a major issue. I  
15 think the comments that my colleague down at the end  
16 mentioned I think are all important, and it is about  
17 showing respect and understanding, unique issues in  
18 communities, and giving a chance for people also to  
19 provide input in ways that are not necessarily publicly  
20 provided. I mean, I'm sure there's going to be focus, you  
21 know, one-on-one interviews or in small groups, however  
22 it's most convenient and respectful to do those.

23           And I'll provide some groundlevel organizations  
24 that are doing this work in the Bay Area if you're not  
25 already in contact with them.



1           So thanks.

2           CHAIR NICHOLS: Thank you.

3           Mr. De La Torre.

4           BOARD MEMBER DE LA TORRE: First of all, there  
5 was the reference to the legislation. But before the  
6 legislation there was an Executive Order, Governor Brown  
7 had this component in it. The legislation just reflected  
8 the Executive Order. So it's important to go back to the  
9 root of where this all came from.

10           Second, in terms of the vehicles and things that  
11 can help in those communities, I agree in terms of the  
12 depth of the analysis and certainly going into communities  
13 like Huntington Park, which is right next to the town I  
14 live in, is very important. But we also have to keep in  
15 mind the bigger picture of the marketplace of these  
16 vehicles and in two things, which I shared with staff.  
17 One, I think it's extremely important to create a  
18 secondary market for these vehicles that reflects the  
19 regular car market. Which is, you buy a car, and it  
20 retains its value whatever percentage, and that makes that  
21 car valuable as well. It isn't just the driving  
22 experience and the time you're going to have it. It's  
23 going to be -- you're going to sell it and you want to get  
24 as much back for it as possible when it's time.

25           For many low income people, they're not going to

1 buy the new one. They can buy the used one like they do  
2 with regular cars.

3 And so we need to -- we need to figure out that  
4 mechanism. We need to figure out how this ZEV marketplace  
5 behaves differently with regard to used vehicle, leased  
6 vehicles that get returned, for example. And getting  
7 those out there and having value for the vehicle and for  
8 the customer, for the lower income person who's buying  
9 this vehicle and using it every day.

10 So we need to figure that out and where are the  
11 breakdowns in this marketplace relative to the normal one.

12 And then the other is, as we start to see more  
13 high-occupancy vehicles, like vans, et cetera, getting  
14 those zero-emission vehicles into these communities for --  
15 and we've talked about it before -- whether it's jitney  
16 service or something where you're bringing people to  
17 transit through these communities, with zero-emission  
18 vans, vanpooling, et cetera, to really minimize the  
19 emissions, and give the folks what they need in order for  
20 them to get from A to B and from A to B to C. So I think  
21 those are the two key component of this, that are more  
22 market based, but clearly will impact the benefits for  
23 these communities.

24 Thank you.

25 CHAIR NICHOLS: Thank you.

1 Ms. Berg.

2 VICE CHAIR BERG: Well, I was very excited from  
3 my briefing yesterday. We have a very passionate group.  
4 And, congratulations, it's really -- and exciting to see  
5 this pull together.

6 I'd really like to look beyond December. We're  
7 going to have a lot of great information from this. How  
8 terrific would this be to, Mr. Corey, look at our future  
9 regulations on transportation, put this group in with our  
10 regulatory group to look for opportunities as part of  
11 different programs that we have going forward. So I think  
12 we're going to have a wealth of information and a great  
13 knowledge base, and to be able to do some cross-teams will  
14 be real exciting.

15 So congratulations and thank you.

16 CHAIR NICHOLS: Great suggestion.

17 I think that's it then. Thank you very much.  
18 We'll look forward to hearing more.

19 Great. Thank you.

20 We're going to be shifting casts here as we move  
21 to the last item of the day, which is the amendments to  
22 the off-road large spark-ignition, or LSI, fleet  
23 regulation. And I am going to ask our Vice Chair to get  
24 this item started off, and I'll be back in just a couple  
25 minutes.

1           VICE CHAIR BERG: Thank you, Chair Nichols.

2           So as staff changes out, as Chair Nichols  
3 mentioned, our final item on the agenda we will discuss  
4 amendments to our off-road large spark-ignition, or LSI,  
5 fleet regulation. These amendments would establish new  
6 reporting and labeling requirements and extend existing  
7 recordkeeping requirements

8           ARB first adopted emission standards for the new  
9 LSI engines in 1998, then adopted fleet requirements in  
10 2006 and subsequent amendments in 2010.

11           The staff proposal to amend the LSI fleet  
12 regulation will increase enforcement effectiveness,  
13 overall compliance, and ultimately aid in deploying of  
14 zero-emission off-road technology.

15           Mr. Corey, would you please introduce this item.

16           EXECUTIVE OFFICER COREY: Yes. Thanks, Vice  
17 Chair Berg.

18           So we're proposing amendments to the LSI engine  
19 fleet regulation because the current regulation requires  
20 in-use fleet operators of four or more pieces of LSI  
21 equipment to meet a declining hydrocarbon plus NOx fleet  
22 average emissions level, with a phase-in implementation  
23 schedule that ended in 2013.

24           The regulation has achieved significant emission  
25 reductions in the freight and airport ground support

1 equipment sectors.

2           The amendments as noted being proposed today will  
3 strengthen the regulation by establishing new reporting  
4 and labeling requirements and extending existing  
5 recordkeeping requirements.

6           The amendments will also set the stage for future  
7 regulatory action by providing staff with valuable  
8 population and emissions data information.

9           And with that, I'm going to ask Todd Sterling of  
10 our Mobile Source Control Division to give the staff  
11 presentation.

12           Todd.

13           (Thereupon and overhead presentation was  
14 presented as follows.)

15           MR. STERLING: Thank you, Mr. Corey.

16           Good afternoon, Ms. Berg and members of the  
17 Board. Today I'll present staff's proposal to amend the  
18 current large spark-ignition, or LSI, engine fleet  
19 regulation. But first a little background.

20   --o0o--

21           MR. STERLING: Before the LSI rule was conceived,  
22 new LSI engine emission standards were first adopted in  
23 1998 and later amended in 2006. The fleet rule, adopted  
24 by the Board in 2006, targets high emitting uncontrolled  
25 equipment by encouraging fleet turnover to cleaner engines

1 or retrofitting with cleaner technologies.

2           The fleet rule currently regulates fleets of  
3 forklifts, floor sweeper/scrubbers, industrial tow  
4 tractors, and airport ground support equipment. The  
5 engines used in this equipment are spark ignited,  
6 typically fueled by gasoline or propane, and are greater  
7 than 1 liter displacement and rated at 25 horsepower or  
8 more.

9           We estimate that there about 96,000 pieces of  
10 equipment operating in California.

11                           --o0o--

12           MR. STERLING: You can see the fleet average  
13 emission level standards required by the existing  
14 regulation for California LSI fleets. The fleet  
15 emission -- the fleet average emission level is declining  
16 NOx plus hydrocarbon standard that varies depending on the  
17 size and type of equipment, with the most aggressive  
18 reductions for large forklift fleets. Small fleets, 3 or  
19 less pieces of equipment, are exempt from the  
20 requirements.

21           As shown, these standards were first implemented  
22 in 2009, with full implementation in 2013. Fleets are  
23 required to continue to meet the final 2013 standards and  
24 required to maintain records until June 30th, 2016.

25           Because of the lack of required reporting in the

1 current regulation and the broad number of industries and  
2 facilities where LSI equipment are used, ARB does not  
3 currently have an effective mechanism in place for  
4 determining and tracking overall statewide fleet  
5 compliance with a fleet average standard.

6           However, of the limited number of fleets we do  
7 have information on, and for fleets that have been in  
8 contact with staff, a majority are in compliance.

9                               --o0o--

10           MR. STERLING: The adopted LSI emission standards  
11 and the fleet regulation are an integral component of the  
12 2003 Ozone State Implementation Plan. In the absence of  
13 emission standards and the fleet rule, it is estimated at  
14 the time that the LSI equipment would emit about 20 tons  
15 per day of NOx plus hydrocarbon in 2020.

16           The combined benefit of these rules was estimated  
17 to be about 6 tons per day of NOx plus hydrocarbon  
18 reduced. To put that in perspective, that reduction is  
19 equivalent to about 75,000 cars removed from the road  
20 today -- 750,000 cars per day.

21                               --o0o--

22           MR. STERLING: With that background I will now  
23 discuss the proposed regulatory amendments. Revisions to  
24 the existing performance requirements including the fleet  
25 average emission levels are not part of the staff's

1 proposal. This means that they would continue to remain  
2 in effect irrespective of adoption of the proposed  
3 amendments. Today's proposal focuses on three main  
4 elements: recordkeeping, reporting, and labeling.

5 As previously stated, recordkeeping under the  
6 current regulation ended June 30th, 2016. The proposed  
7 amendments would extend recordkeeping until June 2023.

8 Additionally, the proposed amendments will require  
9 fleets to report owner and equipment and engine  
10 information to ARB. Reporting will start June 2017 and  
11 continue through June 2023.

12 Finally, fleets would be required to label their  
13 equipment, much the same way diesel off-road equipment are  
14 labeled.

15 --o0o--

16 MR. STERLING: The benefits of these amendments  
17 are numerous. First, reporting labeling would help  
18 increase enforcement effectiveness and compliance rates.  
19 ARB enforcement would be able to visit a facility, see the  
20 equipment labeled, and verify that the equipment is being  
21 properly reported. Once the fleet information is entered  
22 into the reporting system, the fleet owner would verify  
23 themselves whether the fleet is meeting the fleet average  
24 emission standard.

25 Second, we have not updated the modeled LSI fleet



1 emission inventory since the fleet regulation was  
2 originally adopted in 2006. The reporting requirements  
3 for these amendments would provide a better understanding  
4 of the LSI emissions in California in 2017 and beyond.  
5 The reporting would also allow ARB to identify where  
6 electric equipment has penetrated the fleets and where  
7 additional progress can be made through potential  
8 incentive funding and other means.

9           Lastly, these proposed amendments are one of  
10 several ARB data collection efforts that support the  
11 objectives and strategies contained in the Mobile Source  
12 Strategy and Sustainable Freight Pathways document. The  
13 data collected from these proposed reporting requirements  
14 would be essential for the development of future off-road  
15 regulatory measures as explained further at the end of my  
16 presentation.

17                           --o0o--

18           MR. STERLING: Now a closer look at the proposed  
19 amendments. The reporting for the LSI equipment would be  
20 done using an existing diesel off-road on-line reporting  
21 system, or DOORS. This will make reporting relatively  
22 trouble free to the end user since the reporting mechanism  
23 is already established.

24           Current DOORS users will have the ability to  
25 create an LSI fleet from the current account. The on-line

1 system would allow fleets to enter their applicable  
2 information and receive an equipment identification  
3 number, or EIN. This is the number or label that is  
4 placed on the specific piece of equipment.

5 To address stakeholders' concerns regarding the  
6 challenges with reporting large numbers of equipment,  
7 fleets have the ability to import required information  
8 into DOORS using Excel spreadsheet.

9 Staff is still in the process of expanding DOORS  
10 to include LSI equipment, but we expect to be fully  
11 operational within 90 days, allowing plenty of time for  
12 the June 2017 reporting and labeling deadline.

13 --o0o--

14 MR. STERLING: In-field agricultural LSI  
15 equipment are not subject to the LSI fleet requirements  
16 since most of the in-field equipment is diesel powered and  
17 covered under the ARB -- other ARB programs. They would  
18 be -- they would continue to be exempt on the proposed  
19 amendments.

20 Agricultural Crop Preparation Service facilities,  
21 such as packinghouses, nut hullers, grain mills, and  
22 dehydrators, do however have significant numbers of LSI  
23 equipment. These facilities currently must comply with  
24 applicable emission standards and other emission control  
25 requirements under the LSI fleet rule. However, this

1 equipment would not be subject to the proposed regular  
2 reporting and labeling requirements. Instead, ARB staff  
3 has been working on an extensive equipment and usage  
4 survey with the ag community for LSI as well as other  
5 equipment. This survey would provide information above  
6 and beyond what we would gain from the proposed reporting  
7 requirements.

8 We anticipate the survey being ready to be sent  
9 out after summer harvest.

10 --o0o--

11 MR. STERLING: While we have attempted to make  
12 the reporting and labeling as easy and streamlined as  
13 possible, there will be some modest costs to the equipment  
14 owners.

15 We estimate that it will take a fleet operator  
16 one hour to collect equipment and engine information and  
17 label the equipment, thus totaling \$67 per piece of  
18 equipment.

19  
20 So, as an example, for fleets with four pieces of  
21 equipment, the proposed amendments would cost a fleet  
22 owner about \$270; a fleet owner with 100 pieces of  
23 equipment would cost a fleet owner about \$6,700.

24 Additionally, there will be some additional costs  
25 in the future as equipment would be added to fleets or

1 retired or new equipment replaces old equipment. This  
2 would of course require additional reporting and labeling.

3 --o0o--

4 MR. STERLING: We have engaged in a robust public  
5 process to develop the proposed amendments. We have had  
6 multiple workshops in the summer and fall of 2015 to  
7 provide the public an overview of the proposed amendments.  
8 We have also participated in numerous conference calls and  
9 email exchanges with stakeholders.

10 Additionally, we have participated in seven of  
11 the one-stop truck events last fall. These events were  
12 held throughout the State and provided the regulatory  
13 community an opportunity to meet with staff involved with  
14 multiple ARB regulations.

15 We have had, and will continue to provide,  
16 training for the LSI fleet community. Through this  
17 process we have listened to and addressed stakeholder  
18 comments.

19 I should note that environmental justice concerns  
20 were not specifically raised during the workshops or  
21 comment period. However, this equipment is used  
22 extensively in freight transit within EJ communities. The  
23 existing rule did much to reduce these fleet emissions,  
24 but more still needs to be done.

25 --o0o--

1 MR. STERLING: That concludes my discussion on  
2 the regulatory amendments. But before I finish let me  
3 spend a little time discussing how these proposed  
4 amendments are essential for the development of future  
5 off-road emission reduction measures and the exciting  
6 possibilities for integration of advanced technologies.

7 --o0o--

8 MR. STERLING: The proposed regulatory amendments  
9 will feed into an updated fleet inventory. The updated  
10 fleet inventory can be used to identify where  
11 zero-emission equipment is currently being used and look  
12 for opportunities to deploy additional equipment.

13 Additionally, the data can be used to coordinate a set of  
14 opportunities and identify road blocks or technology gaps.

15 Ultimately, the goal is to expand zero-emission  
16 equipment into other off-road equipment types as discussed  
17 further in the next slide.

18 --o0o--

19 MR. STERLING: Just as LSI was one of the first  
20 ARB fleet regulations, we believe the LSI equipment could  
21 lead the way through zero-emission off-road equipment.

22 The LSI sector is expected to serve as a  
23 launching point for many transformative technologies that  
24 could one day penetrate the off-road diesel sector.  
25 Already we have seen common usage of electric and hydrogen

1 forklifts. Staff believes increasing the deployment of  
2 zero-emission technology in the LSI sector first would  
3 facilitate the necessary technology innovation and  
4 maturation that needs to occur in order to transfer such  
5 technologies into larger higher-power-demand applications;  
6 drive down technology costs; increase market acceptance of  
7 zero-emission technology; and help identify opportunities  
8 to optimize infrastructure in order to support both the  
9 on- and off-road vehicle equipment.

10 --o0o--

11 MR. STERLING: With that, I conclude my  
12 presentation. Thank you for your attention today. We ask  
13 that you approve the amendments to the LSI fleet  
14 regulation. And we'll be happy to answer any questions  
15 you have.

16 VICE CHAIR BERG: Thank you very much.

17 We don't have any witnesses signed up. So I will  
18 first turn to the Board to see if there's any questions.

19 So I will --

20 BOARD MEMBER RIORDAN: I don't have a question.  
21 But I think it is reflective that we don't have comments  
22 that they've done a very good job of the outreach, and I  
23 appreciate that.

24 I have been briefed, and I don't know if Board  
25 members have any questions.

1 I would certainly move the item if there are no  
2 questions.

3 BOARD MEMBER SPERLING: Second.

4 VICE CHAIR BERG: Great. We have a first and a  
5 second.

6 I will say that I feel like I'm wearing multiple  
7 hats here, because not only a Board member. I could go  
8 down and sit in the audience as a stakeholder. I do have  
9 eight forklifts, and they are all electric, so I'm proud  
10 to say that.

11 And for the purpose of this vote, I will be  
12 recusing myself.

13 So we do have a first and a second. And I think  
14 it would be fine with a roll call vote.

15 CHIEF COUNSEL PETER: That's fine. Could we  
16 close the record though. Even though there's no  
17 witnesses, we need to officially close the record.

18 VICE CHAIR BERG: Yeah, I'm sorry. I thought I  
19 said that.

20 So we will officially close the record.

21 And with that, all in favor?

22 (Unanimous aye vote.)

23 (Ms. Vice Berg abstaining.)

24 VICE CHAIR BERG: Any opposed?

25 And I will abstain.

1 With that, the motion passes.

2 So our last item -- I mean that was our last  
3 official item, but we do have open comment.

4 And we do have one person signed up for open  
5 comment. And Nathan from PPG will be addressing us.

6 I'm sorry. PG&E.

7 It's the PPG in my industry. I start out and my  
8 brain doesn't work. Thank you.

9 Nathan.

10 MR. BEGTSSON: Thanks so much for the  
11 introduction. Chair Nichols, Board members. Long time no  
12 see. I'm sure you have lots of places to be, so I'll keep  
13 it brief.

14 I just wanted to give a quick update on the  
15 agreement that PG&E announced last week alongside NRDC,  
16 IBEW, A4NR, FOE, and Environment California regarding the  
17 closure of the Diablo Canyon Nuclear Plant.

18 So PG&E has joined with these labor and  
19 environmental organizations to imagine a different kind of  
20 energy future. This is a coalition of labor and  
21 environmental partners, as you can imagine, with some  
22 diverse perspectives. That's why it's such a powerful  
23 statement that collectively came together with a shared  
24 vision for what we believe is the best and most  
25 responsible path forward with respect to this nuclear



1 plant in California's energy future.

2 Together we developed a proposal that would  
3 increase investment and energy efficiency, renewables and  
4 storage, while phasing out PG&E's production of nuclear  
5 power in California in 2024 and 2025 at the end of the  
6 original operating licenses for Diablo Canyon.

7 The proposal includes a PG&E commitment to a 55  
8 percent renewable energy target in 2031, which is an  
9 unprecedented voluntary commitment by a major U.S. energy  
10 company.

11 A key element of this vision is that it  
12 recognizes the value of carbon-free nuclear power as an  
13 important bridge strategy over the next eight to nine  
14 years. And the transition period will help ensure the  
15 power remains affordable and, importantly, that we don't  
16 increase the use of fossil fuels as we move forward to  
17 support California's energy vision in the future.

18 Equally important, this transition will provide  
19 essential time needed for our valued employees and for the  
20 community to plan for a future without Diablo Canyon.

21 We are really proud of Diablo canyon's track  
22 record of industry leading safety and liability. And the  
23 results have been made possible thanks to the skilled team  
24 of professionals who run that plant. And the transition  
25 of the joint proposal provide -- the transition that the

1 joint proposal provides will allow us to finish safe and  
2 finish strong.

3           So to continue to deliver those positive results,  
4 the parties agree that it's important for us retain that  
5 team of professionals. That's why we've included it in  
6 the joint proposal before the CPUC. We've included in  
7 that proposal a package of retention benefits and  
8 retraining opportunities for our team. And for the  
9 community we're also proposing a \$50 million transition  
10 package that would keep tax payments at current levels  
11 until 2025 and allow essential time for planning.

12           Here again, that certainty that we've come  
13 together and made this agreement is really essential.

14           So these replacement resources and employee and  
15 community benefits all have to be approved by the CPUC and  
16 there is much more work to be done. But with the  
17 agreement, license renewal's off the table.

18           And I just wanted to invite the Air Resources  
19 Board's support for the joint proposal before the CPUC.  
20 Together we can really move forward to a future where  
21 clean, affordable and reliable energy dominates our energy  
22 supply and helps us build a better California.

23           So thanks for hearing me out. And I won't even  
24 offer to try and answer any questions you have, but I'll  
25 certainly take them back to the people who are in the

1 know.

2 Thank you.

3 CHAIR NICHOLS: Thank you. It's gotten a lot of  
4 attention in the press and mostly I think very favorable  
5 and positive for the process that you all were able to  
6 undertake. I know there are skeptics or -- I've lost the  
7 word at the moment -- but contrarians, I guess, who argue  
8 that it's a terrible mistake to have abandoned this  
9 nuclear plant. But I think you-all have done the analysis  
10 that showed why it made sense to move on in a new  
11 direction. And so we just wish you the best and we'll  
12 work with you to make it work.

13 Thanks.

14 Okay. We have no more comments on that topic.

15 So it is now time for any additional Board member  
16 comments.

17 BOARD MEMBER DE LA TORRE: Thank you. I just  
18 wanted to report back. I represented CARB in Monterey,  
19 Nuevo León, Mexico, a couple weeks back. They -- Nuevo  
20 León has a new state government, new governor about six  
21 months in, and they have a terrible record on clean air  
22 there. They got rid of their smog check program about 10  
23 years ago. And, I mean, just -- it's known as an  
24 industrial hub in Mexico, and they've done very little to  
25 cleaning their air.

1 Well, lo and behold, it's gotten so bad that they  
2 really feel they have a mandate to do something about it.  
3 And where -- and the first place they went to to see  
4 what's possible was California. The people in the  
5 administration, Secretary of -- the equivalent of the  
6 Secretary of EPA and others and the head of their air  
7 quality board, knew about the progress that's been made in  
8 California, were very impressed by what's happened in  
9 California, and they zeroed in on us as being the cause of  
10 that.

11 And so it just was -- it was a reminder that  
12 people are watching what we're doing, not just here in the  
13 United States but in other places. And to the extent that  
14 they're successful in -- in any of the number of  
15 regulatory efforts that they want to undertake during this  
16 gubernatorial term, that it benefits all of us. It  
17 benefits their air quality but it certainly benefits  
18 climate change, et cetera.

19 And so it was very powerful to be down there  
20 speaking in front of all kinds of different groups and  
21 just telling the CARB story. And the feedback that I got  
22 was nothing but positive, even from industry and other  
23 folks, who in the past have been antagonistic.

24 CHAIR NICHOLS: Is there a follow-up that will  
25 occur as a result of that?

1 BOARD MEMBER DE LA TORRE: It's begun. I've  
2 connected them with our international folks upstairs and  
3 within CARB, and they want to do -- you know, get some  
4 technical support, things that other jurisdictions have  
5 asked for in the past. They really are at zero. Their  
6 monitoring has been dismantled in the past because of  
7 budget cuts and other issues. I mean, they -- they're  
8 starting from scratch.

9 And so a gubernatorial term in Mexico is six  
10 years. At one point one of them said, you know, this is  
11 all great, we want -- and I said, well, you've got five  
12 and a half years to do it.

13 (Laughter.)

14 BOARD MEMBER DE LA TORRE: So -- he laughed.

15 It really is a big challenge. But they want to  
16 embed these things in such a way that -- they all have  
17 come to the realization, much like China, much like the  
18 federal government in Mexico, that they cannot sustain  
19 what they're doing with that air pollution. It's just  
20 hurting them too much. Employers are having a hard time  
21 because their employees are getting sick, et cetera, et  
22 cetera.

23 So it's seems like the political will is there.  
24 We'll see how successful they are in implementing, because  
25 they -- they can't do it all, so they're having to

1 prioritize what they are going to do. And I think it will  
2 be some mix of vehicle stuff and industrial work  
3 limitations, monitoring, et cetera. And we'll see. We'll  
4 see how successful they are.

5 But it just was a very powerful reminder that  
6 people are watching us.

7 CHAIR NICHOLS: Well, thank you for your doing  
8 it. I know sometimes when we think about the  
9 possibilities for international engagement and  
10 international travel, it all sounds very glamorous. And I  
11 think we -- those of us who've done it understand that  
12 often you're going to the places where they're the most  
13 polluted and where, you know, you're doing your best to  
14 try to present a positive message and give them some  
15 support and some hope, but it's not exactly lying on the  
16 beach. So...

17 BOARD MEMBER DE LA TORRE: There's no beach  
18 there.

19 (Laughter.)

20 BOARD MEMBER DE LA TORRE: There's like a hundred  
21 degrees and 909 percent humidity.

22 (Laughter.)

23 BOARD MEMBER RIORDAN: Then all the pollution.

24 BOARD MEMBER DE LA TORRE: And then all the  
25 pollution, which was horrible.

1           But I also want to acknowledge that the folks who  
2 brought it all together were the U.S. Consulate in  
3 Monterey, who wanted to be helpful to this new  
4 administration. So they were the ones who actually made  
5 the connection.

6           CHAIR NICHOLS: That's great.

7           Well, thank you.

8           I won't make any comments about what will happen  
9 when there's a large wall and no consulate.

10          VICE CHAIR BERG: It's not going to happen.

11          CHAIR NICHOLS: That would be inappropriate.

12          Okay. Good. Thank you.

13          Any other comments?

14          If not, we'll be adjourned. Thank you.

15          (Thereupon the Air Resources Board  
16 adjourned at 4:10 p.m.)

## C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 4th day of August, 2016.



JAMES F. PETERS, CSR  
Certified Shorthand Reporter  
License No. 10063