MEETING

STATE OF CALIFORNIA

AIR RESOURCES BOARD

JOE SERNA, JR. BUILDING

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

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1001 I STREET

SACRAMENTO, CALIFORNIA

THURSDAY, AUGUST 23, 2012

9:08 A.M.

TIFFANY C. KRAFT, CSR
CERTIFIED SHORTHAND REPORTER
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Dr. John Balmes

Ms. Sandra Berg

Ms. Doreene D'Adamo

Dr. Alex Sherriffs

Dr. Daniel Sperling

Supervisor Ken Yeager

STAFF

Mr. James Goldstene, Executive Officer

Mr. Tom Cackette, Chief Deputy Executive Officer

Mr. Richard Corey, Deputy Executive Officer

Ms. Ellen Peter, Chief Counsel

Ms. Lynn Terry, Deputy Executive Officer

Mr. Albert Ayala, Chief, MLD

Mr. Bob Cross, Chief, MSCD

Ms. Sharon Lemieux, Chief, Heavy-Duty Diesel In-Use Strategies Branch, MSCD

Mr. Keith Macias, Manager, In-Use Compliance and Evaluation Section, MSCD

Mr. Mike McCarthy, Manager, Advanced Engineering Section, Mobile Source Control Division

Mr. Greg Vlasek, Chief, Office of Emergency Response, Monitoring and Laboratry Division

Mr. Eric White, Assistant Chief, MSCD

APPEARANCES CONTINUED

ALSO PRESENT

Dr. Rasto Brezny, MECA

Mr. Frank Hass, ESW Group

Mr. Chris Jones, BAE Systems

Mr. Gary Simmons, Donaldson Filtration Solution

Ms. Lisa Stegink, Truck and Engine Manufacturers Association

Mr. Mark Stepper, Cummins, Inc.

Mr. Yisheng Zhang, Parker Hannifin Corporation

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PROCEEDINGS

CHAIRPERSON NICHOLS: Good morning, everyone.

The August 23rd, 2012, public meeting of the Air Resources Board will come to order. Please raise and join me in the Pledge of Allegiance to the flag.

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

CHAIRPERSON NICHOLS: Will you please call the roll, Madam Clerk?

BOARD CLERK MORENCY: Dr. Balmes?

BOARD MEMBER BALMES: Here.

BOARD CLERK MORENCY: Ms. Berg?

BOARD MEMBER BERG: Here.

BOARD CLERK MORENCY: Ms. D'Adamo?

BOARD MEMBER D'ADAMO: Here.

BOARD CLERK MORENCY: Mr. De La Torre?

Mayor Loveridge?

Mrs. Riordan?

BOARD MEMBER RIORDAN: Here.

BOARD CLERK MORENCY: Supervisor Roberts?

Dr. Sherriffs?

BOARD MEMBER SHERRIFFS: Here.

BOARD CLERK MORENCY: Professor Sperling?

BOARD MEMBER SPERLING: Here.

BOARD CLERK MORENCY: Supervisor Yeager?

BOARD MEMBER YEAGER: Here.

BOARD CLERK MORENCY: Chairman Nichols?

CHAIRPERSON NICHOLS: Here.

BOARD CLERK MORENCY: Madam Chairman, we have a quorum.

CHAIRPERSON NICHOLS: Thank you very much.

I know we're going to be joined but a couple of other Board members and there may be a little bit of back and forth today because of the fact that the Legislator is in its final weeks of the session, week-and-a-half of the session. And we're engaged in a couple of important discussions. But I think we won't have any problem getting through our agenda today. We've got two regulatory items as well as the beginning informational item. And we will having an Executive Session today at noon.

So let me just make the mandatory announcements in case there is anybody who is not familiar with our procedures. Anybody who wishes to testify and hasn't signed up online should fill out a request to speak card. These are available in the lobby outside or with the Clerk. And you need to turn it into the Clerk as soon as possible. We appreciate it if you include your name on the speaker card, although it's not absolutely required.

If you have already taken advantage of the online

sign up, you don't need to fill out a request card, but you do need to Check in with the clerk, or else your name will get removed from the speaker's list.

We will be imposing a three-minute time limit on oral testimony. So if you'll just state your name when you come up to the podium and then summarize your testimony, it's really easiest for us to follow if you get to your main points rather than trying to read. If you have written testimony, we will also have it and read it.

For safety reasons, I need to point out that there are exits at the rear of the room. In the event of a fire alarm, we need to evacuate this room and go down the stairs and out of the building until we hear an all-clear signal. I think that's it for any opening remarks.

Our first order of business today is an informational item. We've asked our Monitoring and Laboratory Division to come and fill us in on one of their most important functions, although one that we hope they seldom get to exercise, which is the responsibilities we have to assist local air districts in responding to any kind of emergencies that result in releases into the air. Sometimes these emergencies are dramatic and tragic, such as the San Bruno gas explosion and fire that followed it in 2010. And our team was there for the Chevron refinery

fire in Richmond earlier this month.

These kinds of catastrophes as well as our perennial wildfires remind us of the need for preparation. And while the Air Resources Board is certainly only one of many agencies that have a role in these and it's one that we play in coordination with others, I think it's helpful for the Board members to know that we do have a leadership role here in preparing a national emergency management system that guides these very complicated multi-agency responses to measure disasters.

I hate to brag about something like this, but California is at the forefront nationally in having developed well-integrated responses to emergency situations.

So thought this was a good opportunity to bring our staff here, and we'll ask Mr. Goldstene to begin this presentation.

EXECUTIVE OFFICER GOLDSTENE: Thank you, Chairman Nichols. Good morning, Board members.

Each year during fire season, we're reminded that not all air contaminant releases can be predicted, planned, and controlled. California is prone to catastrophic wildfires and is certainly not immune to industrial fires and spills.

The incidents that Chair Nichols has mentioned,

along with others to which emergency team has responded, offer plenty of evidence of the hazards California residents must contend with. Typically, local air, health, and fire districts handle the vast majority of the thousands of fires and chemical spills that occur each year throughout the state. Our suburban and rural air districts in particular can become quickly overwhelmed in the face of the 10 to 20 major air quality disasters each year that may last for weeks, such as the fires now burning here in Northern California.

That's when our Response Team is likely to be called, whether in an advisory role or for rapid deployment of additional air monitors.

In today's presentation, you'll hear about our capabilities and also about the support that we provide to local air districts, which of course is in progress now.

I'll ask Greg Vlasek, who is the Chief of our Emergency Response Team, to give the staff presentation. Mr. Vlasek.

(Thereupon an overhead presentation was presented as follows.)

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Thank you, Mr. Goldstene.

Good morning, Chairman Nichols and members of the Board. On behalf of the Office of Emergency Response and

the Board-wide Emergency Response Team, I thank you for the opportunity to brief you today.

This presentation will, as you've heard, will familiarize you with ARB's role in protecting the health of California's citizens from the impacts of accidental and unplanned contaminant releases.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: To begin, one might ask, given ARB's core mission of developing and implementing long-range air quality attainment goals, why does ARB have an emergency monitoring program.

Simply stated, our program fulfills a statutory obligation to provide air quality information when requested, to assist local air districts, counties, and State agencies. The request may be as formal as a declared state of emergency from the Governor or even the President or simply a request for timely advise from an air district or public health official whose resources are limited.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: The specific mandate for ARB's Emergency Response Program can be traced back to enactment of the Railroad Accident Prevention and Immediate Deployment Act, or RAPID, in

1991. The response to the 1990 Cantara loop chemical spill near Dunsmuir, California, highlighted the State's lack of preparedness for environmental disasters. RAPID established emergency preparedness and response roles for each Cal/EPA Board and for numerous other State agencies.

Following the 911 terrorist attacks in 2001, the Governor directed all State agencies to clearly define their emergency response roles in formal Administrative Orders.

The resulting Order for ARB affirmed the Board's responsibility to provide immediate air monitoring support during State-declared emergencies.

In the aftermath of Hurricane Katrina in 2005, a substantial revision and expansion of the California Emergency Services Act led to a completely new State Emergency Plan.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: The new 2009 plan assigned Cal/EPA the lead role in preparing for oil spills and hazardous material emergencies. ARB is responsible for the air quality monitoring elements of the State Plan.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Californians are regularly reminded of the public health

and environmental hazards posed by major disasters. Our state's unique physiography and climate make us prone to a variety of natural hazards: Earthquakes, floods, landslides, and catastrophic wildfires. Industrial accidents related to our extensive network of chemical plants, petroleum facilities, highways and railroads are not uncommon.

Historically, wildfires pose the most common public health risk to which ARB has responded.

Furthermore, atmospheric scientists agree that climate change is likely to lead to increases in temperature, and among other impacts, more and larger wildfires, as was reported in the most recent and extensive study by the California Climate Change Center earlier this month.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Whether the source of uncontrolled catastrophic air pollution is a fire or chemical release, our mission is the same. We protect public health by providing actionable air quality data that helps emergency authorities make sound public safety decisions.

The Office of Emergency Response, with key support from the Monitoring Laboratory Division, the Planning and Technical Support Division, Research

Division, and the Public Information Office, execute that mission on behalf of the Board.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Regardless of the type of emergency, incident, commanders have a common need for immediate and reliable data to guide their decisions on community evacuations, shelter, recovery, and re-entry.

To meet that need, ARB supports incident commands by doing in a focused way the things we do as well as an agency: Modeling and forecasting, monitoring and laboratory analysis, health impact assessment, and interagency collaboration.

I'll take a few minutes to elaborate on these mission elements and how we apply them. Then I'll share with you some examples of how we've responded in real incidents.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: The first fundamental task of ARB's emergency response is atmospheric modeling and forecasting. Robust atmospheric models and weather forecasts are critical to predicting pollutant concentrations and plume behavior that will determine population exposures and risk levels in downwind communities.

ARB provides daily meteorological advisories throughout the year. And these advisories are expanded and tailored to meet the needs of fire and emergency management officials as many as a hundred times a year or more.

This service is performed by the Meteorology, Atmospheric Modeling, and Emissions Inventory staffs in our Planning and Technical Support Division and does not require field deployment.

Our team also collaborates with outside atmospheric experts, including the National Atmospheric Release Advisory Center at Lawrence Livermore National Laboratory and the National Interagency Fire Center.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: When an incident overwhelms a local air district's monitoring resources, the second fundamental role of our response program, emergency monitoring and analysis, is activated.

At the core of the ARB air emergency response is the experience and ability to quickly deploy specialized air monitoring and sampling instruments and then gather and analyze critical data to inform response planning and operations.

We maintain a variety of portable meteorological instruments, several types of particulate matter monitors,

and chemical analyzers for toxic and flammable gases.

Year in and year out, the most common type of field support is for monitoring of particulate levels associated with wildfires.

Every deployment is guided by a unique monitoring plan that clearly establishes our operational objectives, based on variables of atmospherics, topography, potential human exposure, and the nature of the pollution released. The plan, the instrumentation, and the staff must all be responsive to changing priorities dictated by uncontrolled circumstances.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: A third key role of the Emergency Response Program is delivering incident-related health assessments that include effective messaging on localized risk and recommended actions.

Once we have identified the nature, extent, and likely behavior of an air contamination event, it is essential to properly characterize the associated risk and to communicate that risk with clear messages.

This function relies on timely and site-specific toxicological evaluations by staff working closely with local and State public health experts.

ARB typically partners with public information

offices from responding agencies during air-related emergencies.

Frequently, ARB's Public Information Office is called upon in an advisory capacity to assist with preparation of clear, accurate messages for local air quality officials and emergency managers.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Because wildfires can pose such a prevalent health risk in California each summer, our Public Information Office recently produced a short public education video that explains the effects of the smoke exposure and basic precautions that can be taken. That video became available just a few weeks ago, and I'd like to take this opportunity to share it with you now.

(Whereupon a video presentation was made.)

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Although ARB took the lead role in developing this video presentation, it was, of course, a collaboration of several different agencies with different resources and perspective, which brings us to the fourth and final key function of our Emergency Response Program, and that is interagency collaboration.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK:

Interagency collaboration has emerged as the most common element of an effective emergency response. After the 9/11 terrorist attacks, many agencies sited a lack of uniform communications and procedures as the biggest obstacle to a timely, coordinated response.

To prepare, ARB and government agencies now train and exercise together, following set protocols that develop best practices in all the key areas, including chain of command, communications, geographic information systems, logistics, and data management.

California's emergency response agencies collectively have assumed a leadership role, as Chairman Nichols noted, in developing what is now the national model for an emergency incident management systems.

When agencies share and understand one another's capabilities, emergency responders can leverage predictable and reliable support when it is needed.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Over the past few years, ARB has solidified critical collaborations to establish broad recognition and understanding of our air monitoring responsibilities.

The California Emergency Management Agency, or CalEMA, is a key partner. CalEMA is the State Clearinghouse for local government requests whenever air

monitoring assistance is needed, as well as the State's principle training and preparedness administrator.

Once our service are requested, ARB works closely with the affected local air districts to meet their incident goals and objectives, as well as those of the larger response.

Several large air districts have well-developed emergency air monitoring programs in partnership with their local health and environmental management departments. Most often, ARB assists suburban and rural air districts, whose emergency air monitoring resources are limited.

Another important collaborative is that of Cal/EPA's Emergency Response Management Committee, or ERMAC. ERMAC coordinated preparedness, training, and responses to State-level environmental emergencies.

To foster collaboration that specifically addresses emergency air monitoring practices, ARB and U.S. EPA Region IX founded the California Air Response Planning Alliance in 2006, known as CARPA. CARPA has become the preeminent forum for air districts, environmental and public health professionals, response agencies, and public information officers to facilitate improved response coordination for air emergencies in California.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Since the ARB Office of Emergency Response was established in 2009, we have participated in several notable emergency responses, in addition to wildfires.

Two of these events, the Escondido explosives burn in 2010, and the 2011 Fukushima nuclear disaster required very different but equally important levels of response by ARB.

Looking at these two events in a little detail will give you a sense of the scope of our response capabilities.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: You may recall the unique situation in San Diego County, one of several State emergencies declared by Governor Schwarzenegger. Officials discovered a clandestine bomb factory containing a large quantity of lethal explosives, chemicals, and ammunition in a residence adjacent to Intestate 15. After several weeks of threat assessment by dozens of health, safety, and security agencies, officials decided to execute a controlled burn of the house and its contents.

ARB was called to support local air quality and public health agencies during and after the burn. We conducted particulate matter and chemical monitoring at a

total of 11 temporary sites near downwind residences, schools, and parks. These sites were set up in a matter of hours.

We also collected forensic samples for later toxics analysis by our Sacramento laboratory. By design, the controlled burn was conducted when conditions were most favorable for dispersing pollutants high aloft over Escondido.

Monitoring confirmed that public health was not placed at risk, thanks to the well-orchestrated safety -- the efforts of safety and environmental officials.

An interesting side note to this event was the California Highway Patrol refused to lift a two-hour closure of Interstate 15 until the site commander had specific assurance based on ARB data that it was safe to do so.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Our role in the aftermath of the Fukushima nuclear reactor failure highlights several different functions of our program.

Although ARB does not directly monitor nuclear radiation, we do operate and maintain two radiation monitoring sites as a service to the federal government.

In this capacity, we were supporters of the

Fukushima response by U.S. EPA, the Department of Homeland Security, FEMA, and other federal agencies.

In the hours and days following that release, ARB was called upon to verify proper operation of EPA's radiation monitors that are collocated at ARB monitoring sites. EPA also requested us to identify and coordinate the establishment of new temporary monitoring sites for additional monitors being shipped in from other states.

Finally, ARB led a multi-agency management team that monitored the incoming radiation levels for several months after the event.

We quickly established a public radiation data and health information website that became the State's public Clearinghouse for that incident.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Although it's difficult to characterize a typical year for the Emergency Response Program, our activities here in 2012 are representative of those we can anticipate with reasonable certainty every year. We began our official deployments in may with a FEMA-sponsored mass casualty exercise in nearby Placer County.

This exercise simulated a large ammonia tank rupture in a suburban neighborhood. ARB provided the meteorological scenarios and models upon which response

actions were designed and also led the field task of establishing a chemical monitoring perimeter around the spill.

During the present fire season, we have been continuously deployed since early July to assist local air districts throughout northern California. Our particulate monitoring data has been used extensively in 15 rural communities to develop local health advisories, guide evacuations, and establish shelters. Based on current forecasts, we do expect that this level of support will continue well into September and beyond.

Today, we have ten portable particulate and meteorology monitoring sites operating in Butte, Lassen, Plumas, Shasta, and Siskiyou Counties, augmenting ARB's year-round monitoring stations. We are also in daily contact with four additional counties on the status of wildfires in those areas.

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OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Hopefully, with this background and the illustrations provided, I've given you some understanding of why our program exists, its mission, and its capabilities.

Let me conclude by briefly addressing what we envision for the future. Our program management and staff are committed to developing and delivering the highest

possible level of service to incident commanders during State air pollution emergencies, regardless of the nature or source of the threat.

To do this requires us to continually improve our collaboration with other response agencies, particularly local air quality districts and public health officials.

We are also committed to working closely with our public and private colleagues to continuously evaluate and deploy improved technology, which is evolving very rapidly. This will enable us to refine our best practices and training.

Finally, we are working to continuously improve the quality and timeliness of our data and our methods for conveying that data to those who will benefit from it.

Before I conclude, I would like to add a note. We had an awful lot of illustrations in this presentation. All of these illustrations were from actual events we've been involved in here in California. I think that's noteworthy.

And with that, I will conclude my briefing. And thank you for your attention. And I'll be happy to answer any questions that you may have at this time.

CHAIRPERSON NICHOLS: Thank you very much.

I'm not expecting a lot of controversy, and we don't any witnesses this morning which is probably

indicative of the fact people are out dealing with the emergencies in the field. But we do have a couple Board members I think starting with Supervisor Yeager.

BOARD MEMBER YEAGER: Thank you and thank you for the report. I think because it just recently happened with the Chevron refinery fire, I didn't know if you could talk a little bit about that. I'm not sure it fit into the air contamination event that CARB would have been involved in. But if you can maybe talk about incidents that are a little less than the ones you were describing and if we have a role in those.

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: With respect to the refinery fire in Richmond specifically, that's a good example of a situation where the local air and public health officials had good capability along with working with Chevron actually to do the monitoring that they felt was necessary. So while we were very closely monitoring that situation and we were advised of it very early on by the State warning center, we did not receive the call from Bay Area AQMD.

In that situation, we just monitored the situation. We were available to provide information on any health effects that they felt was necessary. But in that case, we did not provide any specific support.

Now, there are other situations where chemicals

fires are involved. We've been involved in railroad trestle fires several years back, for example, where the concern was both for toxicological needs for a toxicological evaluation as well as just the particulate and smoke evaluation of the situation.

So in that case, the air district needed our support. We deployed on that incident and collected most of the air quality data for that event. So our response is very much based on the needs of the specific incident and the incidents vary a lot.

I don't know if I fully answered your question.

BOARD MEMBER YEAGER: You did. I guess just a couple of other points.

As you know, there's been a lot of controversy as far as the monitoring of the air after the fire, during the fire. And didn't know if we would be looking into that to sort of see if those monitoring stations are in the right location, and if they're analyzing, you know, the right material.

And I guess my other question is if the fire had actually lingered on, at what point would we have gotten involved? Are we talking 24 hours or just short-term, we normally don't.

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Certainly. ARB will certainly be involved in the forensic

evaluation of the quality of the air monitoring. That was available during the actual Chevron incident. There is no question of that.

I think PTSD will probably be the lead organization since they're involved in those inventory decisions and the siting of stations --

CHAIRPERSON NICHOLS: That's another division of ARB. You just used an acronym.

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Sorry. Plan and Technical Support Division.

So that is another a direct function of our Emergency Response Program. But whenever data we have, we certainly would inform that process.

BOARD MEMBER YEAGER: At what point -- if the fire had lingered for a longer period of time, at what point do we get involved? When does somebody make a decision this is large enough, we're going on long enough that we need to be involved?

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Exactly. We do reach out to Bay Area AQMD. We did ask -- I believe that fire burned about four hours. I think had it burned several hours longer than that, they very well would have asked for our support.

CHAIRPERSON NICHOLS: Or another State agency might have asked us.

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Possibly Contra Costa County Public Health was involved in that decision-making process as well.

So we would deploy when working closely when -- with them when we would add value to the effort, as we did in San Bruno.

Bay Area AQMD asked us very, very quickly in that situation to see if we can send out some support, which we did within a matter of days.

MLD CHIEF AYALA: If I may add just one point.

This is Albert Ayala.

The question about whether we get involved or not is really a function of whether the local responders and first responders have determined that they've exceeded their capability. That really is what determines.

In this particular scenario, as Greg alluded, we did not get called because the monitoring was fully covered by the local responders, Bay Area AQMD. We do continue to play a role -- an advisory role because, as you know, there is controversy and questions that linger on some of the findings that they were able to determine. Some of the toxics that were identified. So that role will continue. But whether we get the call or not is really a function of whether the locales have sufficient resource or not.

BOARD MEMBER YEAGER: Thank you.

CHAIRPERSON NICHOLS: Dr. Balmes.

BOARD MEMBER BALMES: I actually had my question answered.

But I would reiterate that there's been a lot of controversy in the local media about the monitoring response to the Chevron refinery fire. So I'm glad the agency will be involved in the evaluation of that monitoring.

CHAIRPERSON NICHOLS: Dr. Sherriffs.

BOARD MEMBER SHERRIFFS: How do we budget for this? These are unpredictable events. Do we have enough in the budget? Are there things that staff feel we need more of? Or are we at the sweet spot at this point?

MLD CHIEF AYALA: We try to do the best we can. As Greg said, it's difficult to predict a typical year. But we try to do as much as we can. And luckily, we are fully supported by the agency. To the extent that it becomes beyond our capability, we can always reach out and ask for help.

So far, it's worked. We haven't been to a situation where we have to turn away request for help. But it is an ongoing challenge. It's very difficult to predict. I think what we are trying to do, as Greg alluded in the last slide, is technology is evolving and

is becoming much more easy and effective for us.

And what I mean by that is right now we're here. The fires are taking place. The reason we can afford to do that is because technology is deployed and is remotely accessed. When we go back to our lab, we'll get online and we try to be smart about how we approach an increasing need, which as we heard from the climate angle of things it's only going to get worse. It's an ongoing challenge.

CHAIRPERSON NICHOLS: I heard an interesting comment on NPR yesterday from spokesperson from the Department of Finance. And I believe this is true anyway, that the way Finance looks at it, they work with us on the budget to try to make sure it's sufficient but not too much. But if the necessity, if an emergency is declared, they have never said we won't fight it or we won't deal with it. That's what the reserve fund is for. They go back and they backfill for agencies if there is something -- if we were to be asked to deploy a monitor and say, gosh, we can't because we ran out of travel funds or whatever it is, they would cover us in a situation like that. So even though we can't predict accurately, they're very eager not to have money sitting around in accounts that's not being used either. So you have to try to balance that.

Other questions or comments?

If not, that can very much. Very nice presentation.

OFFICE OF EMERGENCY RESPONSE CHIEF VLASEK: Just one more point, Chairman Nichols, if I may.

I know some of you had the opportunity last May 2011 to come out to our campus and see some of the equipment that we have in our open house. I just wanted to mention that we have that equipment set up in the foyer here to the auditorium and it will be here all morning. So if you have the opportunity and the interest, you can certainly come take a look and we'd be happy to share with you what we have and what we do with it. Thank you.

CHAIRPERSON NICHOLS: Great. Thank you.

The next item on the agenda is a regulatory item concerning our On-Board Diagnostic System requirements, known for short as OBD II, for light- and duty-medium vehicles and heavy OBD for heavy-duty vehicles.

The Board regularly receives updates on the progress of these regulations, including the one that we're going to hear today. The Board's low-emission vehicle programs require light- and medium-duty vehicles to meet very stringent emissions standards. The emissions standards for heavy-duty engines have also become significantly more stringent, especially for the 2007 through 2010 model years.

Our OBD program is important because it ensures that the vehicles and engines meet those standards in real-world use and remain clean for their entire life, not just when the vehicle is being certified. When emission problems are detected, drivers are alerted by a warning light and repair technicians can access diagnostic information to identify the nature of the problem and to verify whether or not it's been correctly fixed. So this is really an integral piece of the overall standard.

Mr. Goldstene, I think you will be giving us an overview of what the staff is going to be covering.

EXECUTIVE OFFICER GOLDSTENE: Thank you, Chairman Nichols.

As directed by the Board, staff has been evaluating manufacturers' progress in designing and implementing heavy-duty OBD systems starting in the 2010 model year. Since the heavy-duty OBD regulation was last amended in 2009, staff has identified several changes that need to be made. Among other things, staff is proposing several modifications related to the monitoring requirements, including the addition of several definitions that clarify the purposes and requirements of the regulation.

Similar changes are being proposed for medium-duty diesel vehicles so that consistent

requirements apply for both vehicle weight classes. The proposed amendments would also update the OBD requirements for heavy-duty alternative fueled engines and heavy-duty hybrid vehicles.

I'd now ask Mike McCarthy of the Mobile Source Control division to provide a summary of the proposal. Mr. McCarthy.

(Thereupon an overhead presentation was presented as follows.)

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Thank you, Mr. Goldstene.

Good morning, Chairman Nichols and members of the Board.

I'm here today to present a proposal to amend our on-board diagnostic regulations.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: I will start today's presentation by providing you some background on the on-board diagnostic, or OBD, program before giving you a brief overview of the proposed changes to the existing regulations and identify one remaining issue.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: The OBD system is comprised of software in the vehicle's

on-board computer and it uses sensors that measure engine parameters such as temperature, pressure, and air flow.

The OBD system generally does not measure emissions directly. Rather, the system evaluates sensor signals to determine if they are operating in their normal ranges. Vehicle emissions can be correlated to sensor or component deterioration through emission testing of vehicles with deteriorated components installed.

When the component or system being monitored has been determined to be malfunctioning, a warning light, commonly referred to as the check engine light, is illuminated on the vehicle instrument panel.

Additionally, information about the malfunction and the driving conditions at the time the fault was detected can be downloaded from the vehicle using a standardized hand-held scan tool. The fault information facilitates vehicle inspections and repairs.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: We currently have two OBD regulations. One is known as OBD II and has been in place on all 1996 and subsequent light- and medium-duty vehicles, such as cars and trucks.

The program has been quite effective and is the primary mechanism used in the smog check program to identify vehicles in need of emissions repairs and get

them properly repaired.

As you can see from the chart, the green line indicates the portion of failures identified by OBD and accounts for well over 80 percent of all fails. Similarly, you can see that the tailpipe test that was traditionally the mainstay of the smog check program accounts a smaller and smaller share of identifying which of today's low emitting vehicles are in need of repair.

The same OBD system is in place nationwide on all light-duty vehicles, and every other state in the U.S. that has an inspection program like the smog check program relies on that system for the inspection.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: The second OBD regulation that we have is heavy-duty OBD. Heavy-duty OBD was first adopted in 2005 and applies to on-road heavy-duty vehicles such as line haul trucks, urban buses, and delivery vehicles.

Phase in of the heavy-duty OBD systems started with 2010 model year, while the 2013 model year will mark the introduction across 100 percent of all heavy duty engines.

And while we are clearly in the infancy of the heavy-duty program and still in a fairly steep learning curve, we have high expectations that a comprehensive OBD

system will follow the success of the light-duty program and help ensure heavy-duty vehicles emit as low as possible throughout their life.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: So why are we here today? OBD is one of ARB's regulation that is clearly a technology-forcing regulation. Based on an assessment of technical feasibility and cost effectiveness, we set requirements for the system to detect emission-related malfunctions as early as possible to minimize excess emissions before a fault is repaired. And consistent with setting such stricken standards, staff closely monitors the development of technology and manufacturers progress towards meeting the requirements and reports back to the Board periodically if any changes are warranted.

Today as amendments reflect that process and are actually the second time we are presenting amendments since the initial adoption in 2005.

The other importance of today's amendments is this is the last opportunity to make any revisions prior to wide-scale implementation across all 2013 model year heavy-duty vehicles.

I would like to note that while the majority of changes are directed at heavy-duty vehicles and thus the

heavy-duty regulation, similar changes are also included in these amendments for medium-duty vehicles. In many cases, the same manufacturers produce vehicles or engines in the medium-duty and heavy-duty class. And to the extent we can, we try to align the requirements so manufacturers can design one system to satisfy both regulations. And while there are gasoline engines in the heavy-duty class, the majority of changes we will be talking about today involve diesel engines.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: From a high-level overview, the proposed changes fit into three basic categories.

First, we have changes that apply to the 2013 to 2015 model year vehicles and generally represent adjustments to the requirements based on the best available monitoring technology.

Second, we have some changes that reflect more stringent requirements to make the systems even more comprehensive for future model year vehicles, such as 2016 and beyond.

And third, we have several changes including new or revised definitions and other revisions to clarify the requirements and stakeholder responsibilities.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: One of the first changes I would like to highlight involve selective catalytic reduction, or SCR, catalyst systems. This is a critical NOx control for diesel engines. And as the pictures shows, it is essentially a catalyst in the exhaust that can be highly effective at reducing NOx emissions.

With respect to OBD, manufacturers are required to design a diagnostic or monitor that can detect faults of the catalyst before emissions exceed a multiple of the tailpipe NOx standard.

While staff originally projected that monitoring technology would be able to robustly detect faults before emissions were two times the NOx standards in the 2013 time frame, a recent assessment of manufacturer's progress found that further time is needed to get there.

SCR catalysts as well as the NOx sensors used for control and monitoring of the systems were only recently introduced on the heavy-duty vehicles in the 2010 model year. And the manufacturer's making significant refinement to the control of the system, as well as the accuracy and durability of the sensors.

Accordingly, staff is proposing to move to higher thresholds for the near term. Specifically, as the table shows, to require manufacturers to detect faults at three

times the standards in 2013, phase-in detention of faults at two-and-a-half times the standards in 2014 and 2015, and then be back on track in 2016 with the capability to detect faults at two times the standards.

And lastly, these revised thresholds would apply both to faults of the SCR catalyst and the fault of the NOx sensors used to monitor the catalyst.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: The second change I would like to highlight involves another critical diesel emission control, namely the particulate matter or PM filters. Again, as the picture shows, this is a component in the exhaust that is similar to a catalyst but used to trap or filter PM emissions that are in the exhaust and can be very effective at doing so.

Similar to the previous change, this change reflects a change to the monitor stringency or the emission level at which a fault must be detected. One of the factors that necessitates a change is that manufacturers are currently transitioning to a new monitoring technology for PM filters in the next few years. Manufacturers will be migrating from the current technology that uses pressure sensors to assess the performance of the filter to actual PM sensors that will directly measure PM emissions downstream of the filter.

This is a fairly critical transition, as the current technology has limited capability to detect faults at a very low emission levels and to detect all possible failure modes of filters.

The newly developed PM sensors, on the other hand, are much more capable of detecting faults quickly and at very low emission levels and without regard to how the filter actually failed.

The current requirements reflect staff's assessment back in 2005 that PM sensors would be available for a limited phase-in on one engine per manufacturer in the 2013 model year. And while a few light-duty diesel vehicles will actually have PM sensors in the 2013 model year, most heavy-duty manufacturers ran into additional implementation issues that could not be resolved in time.

Accordingly, staff is proposing changes to delay the introduction of PM sensor-based monitors from the 2013, to 2014 or 2015 model year.

Further, staff is proposing two options for manufacturers to provide more flexibility. The first would require the manufacture to implement a PM sensor-based monitor on 20 percent of its 2014 model year engines and carry that over to the 2015 model year. As an alternative, the manufacturer could wait until the 2015 model year, but would need to introduce such technology on

50 percent of its engines in that case. In either case, the manufacturers would still be required to meet the same ultimate requirement of detecting fault at three times the PM standard on all 2016 and subsequent model year vehicles.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: The last near-term change I will cover involves heavy-duty hybrids. To ensure the emission benefits of hybrids are actually achieved, it is important that the OBD system monitor the hybrid components. In very simple terms, if part or all of the hybrid system no longer works, the engine will operate more and emissions will increase.

Today's heavy-duty vehicles, however, do not reflect the high level of integration that is really needed to optimize hybrid systems. Unlike light-duty hybrid where the same manufacturer produces and integrates the engine, vehicle, and hybrid system, heavy-duty systems are comprised of independent suppliers for all three.

Given the independent nature of heavy-duty suppliers and the complexity in today's heavy-duty hybrid vehicles, better coordination is needed to preserve the low emission performance of the vehicle, to maximize the CO2 and fuel economy benefits, to optimize drivability and performance, and to be able to properly monitor engine and

hybrid system components within OBD.

After meeting with most heavy-duty hybrid system manufacturers and the engine manufacturers, staff beliefs it is appropriate to exempt hybrids from OBD for one additional year and require compliance beginning in 2014 model year instead of 2013 model year. This should help provide the manufacturers the needed time to achieve better integration and get on a path to full OBD compliance. The proposed amendments also provide some additional relief in the 2014 and 2015 model years for hybrids to help ease their transition into OBD.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Next I would like to talk about two areas where we are proposing more stringent monitoring requirements for future model year vehicles. First, a change in the requirements for diesel engines to detect engine misfires. Misfires occur when the amount of fresh air, fuel, or compression is insufficient to support combustion in the cylinder. The current requirements only require detention of severe misfires at idle and exist as such because traditional diesel engines had much simpler controls. However, modern diesel engines have very sophisticated controls and can operate the engine very close to the limits of combustion in engine and loads. This puts these

engines at risk, much like gasoline engines, for developing misfire problems in specific regions. Accordingly, the proposed change would require detention of misfires that occur at any engine speed and load and such requirements would be phased in progressively from the 2016 to 2021 model years.

Secondly, the OBD requirements also apply to heavy-duty alternate fuel engines, such as those that run on compressed natural gas or propane. However, because alternate fuel vehicles have historically made up a small market share of less than five percent of the heavy-duty fleet, the current requirements exempt such vehicles from OBD until the 2020 model year.

The proposed amendments would shorten that exemption and require compliance in 2018 model year. This change is to ensure that alternate fuel engines are also kept operating at low emission levels throughout their life, especially in light of some indications from engine manufacturers and or relevant sources that the sales volume of alternate fuel vehicles may appreciate and increase in the near future and represent a more significant market share of the fleet.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Lastly, as is often the case -- and I suppose even

expected -- industry and staff are not in perfect agreement over all the proposed changes.

One remaining issue I would like to touch on involves the PM filter monitor revisions I covered earlier. The table shows the proposed revisions I summarized earlier and the circles draw attention to the requirements to phase in more stringent monitors that would likely use a PM sensor on either 20 percent of the 2014 engines or 50 percent of the 2015 engines.

Industry has indicated that it believes lower phase-in percentages are warranted in addition to other possible forms of relaxed requirements. And I expect they will raise this in their comments.

However, staff believes the current proposal is achievable based on discussions with individual manufacturers and suppliers and that the phase-in percentages are minimum levels that are needed to ensure sufficient market introduction to support full implementation in the 2016 model year. And should something unexpected occur that prevents individual manufacturers from fully complying in 2014 or 2015, there are other relief mechanisms in the regulation that should be able to address any shortfalls at time of certification.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: In general, the amendments proposed today are minor changes that do not reflect significant changes in the long-term cost to implement OBD systems that were calculated with the original rule making in 2005 and updated in 2009.

The total cost to implement heavy-duty OBD systems is still estimated to be $134 per engine. For perspective, this is less than two percent of the retail cost of a new engine.

The cost effectiveness of the heavy-duty OBD program also remains very good relative to other adopted programs and is approximately 15 cents per pound of reactive organic gas, plus NOx, and $22.50 cents per pound of PM.

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ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Which brings us to the final slide.

In concluding today's presentation, the proposed amendments to the existing OBD regulations are necessary to ensure a successful heavy-duty OBD program. The proposed changes reflect a balance of interim or near-term adjustments, as well as the addition of future improvements.

Staff recommends adoption of the proposed

amendments with 15-day changes.

This concludes staff's presentation. And I thank you for your attention.

BOARD MEMBER D'ADAMO: Thank you.

Anything else, Mr. Goldstene?

EXECUTIVE OFFICER GOLDSTENE: No, not at this time.

BOARD MEMBER D'ADAMO: We'll go ahead and start on the witnesses.

The first witness is Lisa Stegink, followed by Mark Stepper.

MS. STEGINK: Good morning. I'm Lisa Stegink today on behalf of EMA, the Truck and Engine Manufacturers Association. EMA's members produce the medium- and heavy duty truck and bus engines and vehicles that are the subject of today's proposed amendments.

On-board diagnostic regulations are highly technical and complex, and they present unique challenges for that test the limits of manufacturers' design capability and resources. EMA and its members have worked extensively with staff over the past several months to address our concerns with the proposed amendments before you today.

We're pleased to say that we have worked out many of the issues, but other issues remain, some of which are

detailed in our written comments -- or which are detailed in our written comments we submitted to ARB.

The key issue that EMA is raising with the Board today is the status of certain aspects of ARB's enforcement regulations. As you know, the Superior Court of California for Sacramento County recently ruled that the manufacturer run in-use testing program and ARB's engine recall program based on exceedances of OBD malfunction thresholds are invalid because they're not within the scope of ARB's statutory authority.

As a result, some of the proposed amendments are invalid and the proposed new definition of emission standard doesn't cure the fundamental problem and doesn't conform with federal law or the Health and Safety Code.

We are aware that ARB filed an appeal with the court's decision last week. Pending the outcome of that appeal, ARB has no authority to force manufacturers to conduct in-use testing or to require manufacturers to recall products based solely on failed sensors.

In well over 35 years of working with ARB, EMA has only felt the need to result to litigation on three occasions. For the most part, we have been successful in working with you and your staff to assure that your rules are effective and implementable. And we've implemented them to great success. We believe that it is in our

mutual best interest to work together to find an amicable solution to the current dispute, and we look forward to doing so.

We have two specific technical issues. I'll be brief. Mr. McCarthy mentioned one. We do ask the Board to direct staff to change the phase-in levels for the PM filter monitor to half that proposed by staff. Government manufacturers and customers need reliable and dependable engines in vehicles. Our proposed phase-in will drive the use of the same mature technology as staff's proposal, while limiting overall risk and problems for customers related to emerging technology.

In addition to support successful introduction of hybrid truck technology in California, we ask the Board to align the timing of requirements for OBD on hybrid technology with the timing required nationally.

We do ask you to finalize these rules as soon as possible so that manufacturers can get their certification applications in and staff can review them and product can be ready for the 2013 model year. Thank you.

BOARD MEMBER D'ADAMO: Thank you.

Ms. Peter, could you respond to the legal question raised?

CHIEF COUNSEL PETER: Yes. This is Ellen Peter.

The point I wanted to make was, first, ARB

disagrees with the superior court rule. We think that was incorrect. We filed an appeal. We're confident it will get reversed on appeal.

The amendment that's before us today basically adjusts a definition. That's not an issue. The reason it would be important is if we are going to take enforcement action. There is no enforcement deadline until 2014. And so that's basically the court of appeal decision will be resolved by then.

So we disagree with EMA's position that we don't have any authority to take care of this amendment today. We think that's incorrect. And ARB has no intention of enforcing it until the appeal is resolved. So we think that the Board can move ahead today. There is no injunction that's in place. There's nothing that prevents the Board from acting and the appeal is in progress. We respectfully disagree with the superior court's decision on how we defined what OBD as not an emission standard.

BOARD MEMBER D'ADAMO: Okay. Thank you.

The next witness is Mark Stepper with Cummins.

Mr. STEPPER: Good morning. My name is Mark Stepper. I'm speaking today on behalf of Cummins, Incorporated.

Cummins is a global power leader that designs, manufacturers, and sells services and diesel engines and

related technology around the world.

I'm here today to speak to a few key issues of which you've already had some introduction to those.

Cummins and EMA have worked extensively with staff over the past several months to address many of the issues. Cummins supports the EMA positions that have been stated orally today and submitted in written form.

Cummins has spoken to ARB OBD staff on several occasions about the OBD heavy-duty hybrid vehicles. Cummins has urged ARB to align hybrid OBD phase-in with the extended OBD phase-in in which EPA codified it back in 2011.

Keep in mind, ARB has allowed alternate fueled engines to have to meet OBD requirements until 2018. A delay there.

Keep in mind ARB's delayed some critical heavy-duty OBD requirements for small volume diesel manufacturers until 2016 or later.

With that in mind, to better enable the heavy-duty hybrid vehicle market in California, ARB OBD staff should align the heavy-duty hybrid OBD phase-in with that of EPA.

Cummins, along with EMA, has requested the staff to change the PM sensor and PM filter requirements to be phased-in per a different schedule. Cummins requests that

the Board direct staff to change the phase-in levels for the PM sensor to half what staff has proposed. Current phase-in does little more, if anything, towards developing the technology, but adds risk for the manufacturers and the customers. Reducing the phase-in levels while maintaining inadequate technology introduction strategy, which half the rate will do, provides responsible customer exposure related to such emerging technology.

Government, manufacturers, and customers want reliable and dependable solutions. The proposed phase-in will drive the same mature technology as staff's proposal while reducing the probability of unacceptable overall risk.

In closing, I'm compelled to raise the frustrations with the process that has followed for these complicated and demanding OBD regulations. Here we are, August 23rd, at a hearing to approve modifications necessary so that manufacturers can get their products OBD certified so we can start building them in a few months here.

Many manufacturers have already submitted their OBD certification documents to ARB staff for approval. These rules get finalized years ahead of certification dates, not months.

Thanks for letting me have the time to represent

Cummins before the Board and ARB staff.

Are there any questions or comments?

BOARD MEMBER D'ADAMO: Thank you.

BOARD MEMBER SHERRIFFS: Could I ask a comment? Could you comment more specifically on how this current phase-in compares to the EPA phase-in that you speak to?

MR. STEPPER: For the hybrid vehicles? Yes.

EPA has a phase-in plan that starts the heavy-duty OBD hybrid requirements in 2016. If you started producing hybrids before January 2013 and then in 2017 if you had hybrid technology that you were introducing after the beginning of 2013, so 2016 or '17, depending on when you got into the market.

BOARD MEMBER SHERRIFFS: What percentage of your trucks are you forecasting to be hybrids over those years?

MR. STEPPER: I wish I could answer that precisely, but I'm afraid I don't have that number for you. That gets very small compared to alternate fuel engines or diesels.

BOARD MEMBER D'ADAMO: Ms. Berg.

BOARD MEMBER BERG: Regarding the PM filtering phase-in time, is it your position that by model year 2016 you will be on track if the technology progresses the way we think it's going to?

MR. STEPPER: That is -- we've invested a large

amount of money in trying to develop the sensor technology.

One comment that was made is we would move away from delta pressure to PM sensors. The way we see things more involves having to use both technologies together. And so that development work we do think will be able to deliver reliable solutions in that 2016 time frame.

BOARD MEMBER BERG: So I'm confused on the request. I might be able to understand the model year 2014 if you're saying ten percent can give you the information that you need. But it would seem to me if we are not at 50 percent by model year 15, I don't understand how we would be at 100 percent at model year 16.

MR. STEPPER: The ten percent levels are giving you experience with giving me sensor and modifications to the after-treatment systems and to sampling of vehicles and making sure you've got the technology developed.

And whether you go for the higher volume manufacturers, whether you go from ten percent to 100 percent, or for the low volume manufacturers, or going from zero percent to 100 percent, it's a step change. So we just feel like we can manage the introduction better if we're keeping it to fewer engine models and fewer vehicle models.

BOARD MEMBER BERG: Thank you.

BOARD MEMBER D'ADAMO: Thank you.

Next witness, Dr. Brezny followed by Chris Jones.

DR. BREZNY: Good morning, members of the Board. I'm Rasto Brezny with the Manufacturers of Emission Controls Association.

Over the years, you've come to know MECA as the exhaust catalyst and filter manufacturers. However, a number of our members are also actively developing and commercializing the types of sensors that are integral to the OBD system, things likes PM sensors, NOx sensors, among others.

MECA supports this proposal because it will better align the OBD requirements with the state of development of these types of sensor technologies.

Our comments today focused on monitoring and performance requirements for a catalyst, the filter, as well as the PM and NOx sensors.

We support the proposed delay and the higher NOx conversion threshold across the NOx catalyst in the 2013 to 2015 time frame. Although significant advances in NOx sensor technology have occurred over the years in order to get us to the level of accuracy where we are today, the additional time will provide engine manufacturers the opportunity to better integrate and optimize their NOx catalyst monitoring strategies.

Similarly, because PM sensors are not yet commercially available across all manufacturers, MECA members are working with their customers in order to be fully integrated in the 2015 time frame. Therefore, we support the revision of the thresholds and sensor failure mode flexibility in order to better match the capability of the monitoring technology.

We further support the proposed delay for monitoring requirements for the non-methane hydrocarbons and nitrogen oxide feed gas across oxidation catalysts and catalyzed PM filters. This will align heavy-duty engines with the requirements for medium-duty OBD that have been recently implemented.

We agree with staff's conclusion that heavy-duty LPG engines in vehicles can benefit from the same type of well-established evaporative monitoring strategies in the 2018 time frame.

And finally, we commend your staff for regularly reviewing the development of sensor technologies and monitoring strategies and taking necessary serious steps to amend the OBD regulations.

Thank you very much. And I'll be happy to answer any questions you might have

CHAIRPERSON NICHOLS: Thank you.

Chris Jones.

MR. JONES: Hello. I'm Chris Jones, lead OBD engineer at BAE systems, which is one of the largest heavy-duty hybrid propulsion systems manufacturers in north America.

I'm here to make comments in opposition to the heavy-duty OBD wording that requires heavy-duty hybrids cert by 2016 and ask you to align with the EPA time line for 2016, 2017, as Mark mentioned.

I'm an engineer. And with many of my colleagues back at the BAE systems, I've invested over 20 years of my life in developing this system and have a lot of pride in it -- and pride in it as well as the emissions benefits it provides.

So while BAE is in agreement with the ARB, that hybrid OBD -- heavy-duty OBD is of value to our system and will improve it, we cannot stress that enough. The efforts of the ARB to drive the industry by not aligning with the EPA time line we believe will ultimately result in fewer hybrids protecting the air in California.

We are asking for alignment with the EPA time line for a number of reasons that are in our written comments. And I'll summarize them here.

In the new wording and ARB staff comments show a preference for vertically integrated manufacturer, perhaps to ease the process to a single-party certification

holder. This is not does not reflect the heavy-duty North American market that exists today. In North America, the hybrid and engine manufacturers are suppliers to the vehicle manufacturer who integrates these components to provide specifications with our help.

If we do not align with the EPA time line, then time is needed time is needed to establish the relationships between these multiple businesses and establish standards that help us do this in single part certification.

Second, for CNG engines, the new wording allows for an additional four years beyond what is allowed for heavy-duty hybrids with ARB staff commenting that the CNG hybrid market is still uncertain.

But according to the 211 APTA vehicle data vehicles, 1500 CNG equipped buses were sold in California between 2006 and 2011, while only 225 hybrids were sold in the same time frame in California and zero sold in 2011.

Clearly, if the market is still developing for CNG, it is certainly ahead of hybrids. And hybrids deserve the same consideration. Finally --

CHAIRPERSON NICHOLS: Your time has expired. Could you wrap it up?

MR. JONES: I'll just summarize one last point, if you don't mind.

Given that the OBD compliant engines are only new themselves, time needs to be given to allow the hybrids to integrate with these engines and align with the EPA time line that allows for that.

CHAIRPERSON NICHOLS: Thank you.

Mayor Loveridge, do you have a question?

BOARD MEMBER LOVERIDGE: Just wondered if staff could respond to the EPA time line.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, I'd like to point out that heavy-duty OBD and light-duty OBD was developed by people sitting at this table here and approved by members of the Board. It was not an EPA program at all. And EPA has adopted our program where convenient, but it's still completely administered for the nation by California.

So the fact that they chose to take a slice of this hybrids and say that for federal purposes you can have more time is not a persuasive argument to us. We think you need to put pressure on all these manufacturers to develop things because this is technology-forcing program. That's why we're actually relaxing some of the standards today because we pushed hard and things didn't quite company.

I would like Mike to comment on what has happened with respect to OBD for hybrids.

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Yeah. I'd like to -- you know, the hybrid requirements we clarified in 2009 with the amendments that hybrids were required to have OBD on them and that would require the 2013 model year. So we gave them three or four years of lead time back then.

Frankly, very little progress has been made by them towards OBD compliance in that time frame. That's why when we talked with them and met with them, we didn't think four years as EPA has done would change it. They haven't done anything in the last three. Why are they going to do anything the next four?

What we proposed was just push them off one year and then we put some additional relief in the regulation to give them extra deficiencies so they can get some certified if they fall short in '14/'15 and ease their ramp up into OBD.

But short of just walking away for three more years, we didn't think that was appropriate. ARB has a funding program that incentives hybrids for heavy duty. We actually pay for up to half of the hybrid incremental cost. We want those benefits. We want those benefits to stay around. If we don't have OBD on them, there's no guarantee that the benefits we're paying for are going to stay around.

CHAIRPERSON NICHOLS: Okay. Thank you.

Thank you.

Our last witness that signed up is Yisheng Zhang from Parker Hannifin.

MR. ZHANG: Good morning, Board members. I'm Yisheng Zhang from Parker Hannifin. I'm representing Parker Hannifin to show our concerns with the heavy-duty hybrid OBD timing for the compliance by 2014. So we would like to suggest for ARB to follow EPA timing or make some adjustment. So I feel the current timing will have a huge negative impact in US economy and also make US lose the leading edge in heavy-duty hybrid and others.

So many heavy-duty hybrid manufacturers are relatively new to the market. For Parker Hannifin, which started (inaudible) last year. So I believe all hybrid OEMs that need to get to the OBD compliance, but we have big concerns about the timing because of limitations of our resources. So if we do a quicker internet search, we can find hundreds of OBD (inaudible) being met. How difficulty in our program of OBD equipment. This is challenged for hybrid OEMs because there is no prior experience with the OBD.

And also with 14 heavy-duty hybrid OBD compliance, we have to have a lot of collaboration with engine OEM. Given the 2013 OBD challenge to engine OEMs

this is unrelative to imagine that engine OEM will have enough resources and time to work with hybrid EOM towards 2014 compliance. Because with the results of implementation if 2014 hybrid compliance go to the law, so some hybrid manufacturers, we force out and leave this market so that cause immediately thousands of job losses in USA. This also has a ripple effect because these OEMs also spent lots of money to work with the supplies for the technology.

So these companies, they could have the best hybrid technology so this could lead to significant delay in USA on emission reduction in the long run. And they could also help to make USA more energy independent and a cleaner country, but they could easily be (inaudible) by the proposed timing.

So just as a summary to my point because providing heavy-duty hybrid only account for one percent of the US heavy-duty market, so I would propose that Board member consider to match the timing with EPA or propose something adjustment based on (inaudible) instead of just one shot in 2014.

CHAIRPERSON NICHOLS: Okay. Thank you.

Is there summary from the staff or any response you want to make to this overall presentation?

EXECUTIVE OFFICER GOLDSTENE: No, I don't think

so.

CHAIRPERSON NICHOLS: If not we're going to close the record and go to Board discussion.

So it seems to me that this is an area where ARB really has made one of its most forward-thinking contributions to the whole field of pollution control. And what staff is really proposing is primarily in the direction of making these regulations a little easier to comply with, but still keeping the overall thrust of pushing the industries towards development of the kinds of technologies that will make sure that the vehicles meet the very strict standards that they were designed to meet over their lifetime.

Obviously, this will open up some opportunities for some businesses and create some expenses for others that they're not entirely happy about. But it seems to me that on balance it's a pretty sensible proposal.

So I'd like to urge that we get a resolution here and move on.

BOARD MEMBER D'ADAMO: I agree, Madam Chair. I move adoption of Resolution 12-29.

CHAIRPERSON NICHOLS: Second?

BOARD MEMBER RIORDAN: Second.

CHAIRPERSON NICHOLS: Dr. Sperling?

BOARD MEMBER SPERLING: I've a question about the

natural gas engines. Why are this exempted until 2020? There is so much discussion, so many proposals, legislation, you know, industry proposes to dramatically increase the number of natural gas trucks. I mean if you believe any of these pronouncements coming out from any of these industry groups, there is going to be a huge number of them.

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: So when we originally adopted in 2005, you know, we obviously looked at the heavy-duty industry at that time. Alternate fuels did represent a very, very small portion of the fleet. Most start as a diesel engine or a gasoline engine and are converted to the CNG or LPG type engine.

The good news is they're starting with an engine that has a diagnostic system on it. So yes, they disturb that diagnostic system when they convert it, but most of our experience is the system mostly works. It needs some reassignment, some realization, but it's mostly there in place.

So, yes, we give them relief. But our theory was they would still have OBD systems on them that do for the most part are detecting faults perhaps at grosser levels than they should.

Hybrids, on the other hand, we looked at and said starting and stopping an engine can reek havoc on engines

that are trying to complete and stuff like that. So we gave all-fuel a break primarily because we knew there would be a core diagnostic system in place and they were such small volume.

We are back today because we've seen the announcements too. We've seem the manufacturers and other moves and legislation to try to push alternate fuels faster so we try to pull ahead a little bit to protect us and sooner rather than later. But we haven't seen that up-tick in sales yet, but we're trying to put measures in place now to protect for it.

BOARD MEMBER SPERLING: So your proposal is to full it to 2018 instead of keeping it in 2020?

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Right. That still gives them five years from now. They still are small volume today. Even with the announcements we've seen, I don't think we are going to see a dramatic up-tick next year or the year after. But three or four years out, we could be starting to see that. So we have protections in place five years out. It's not the perfect solution, but it's better than seven years out.

BOARD MEMBER SPERLING: I have another question. It's kind of a digression. It's that chart you did on OBD II for light duty. I haven't followed smog check closely in recent years, but it says here that all of the failures

are detected essentially all by OBD and none by tailpipe testing. That's pretty shocking. That's not what we're here to discuss today.

CHAIRPERSON NICHOLS: No. That's a true fact.

BOARD MEMBER SPERLING: But it seems like it would be appropriate to address that question.

CHAIRPERSON NICHOLS: There's been some movement on the smog check programs, some changes in leadership, and some update in the legislation to try to really streamline the program and to make it something that's more useful. And it probably would be a good idea for the Board to get an update on the smog check in the future.

EXECUTIVE OFFICER GOLDSTENE: We'll plan one for the near future. That's a good idea.

I think Tom has some points.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Yeah, I would just point out that we are -- statute was amended so that we are able to change the smog check program to an OBD-only program for what ended up being 2000 and newer vehicles, even though some of the '96 and '99 have OBD II on them.

But anyway, it's one of the benefits of OBD is that it's a better inspection. It's more comprehensive. It figures out if you didn't repair the vehicle right, the light comes back on at the end. And we think it will end

up saving about $100 million a year for the public in the lower cost smog checks once we get that going.

The older cars will still be in the old system. But this is another example of why a comprehensive OBD system really pays off in the end.

BOARD MEMBER SPERLING: So this is a proposal?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: No. This has been passed by the Legislature and it's going to go into place in the middle of I think August of 2013.

When you go in, you'll set it for 20 minutes. Go in for five minutes plug into the OBD port. Look at it. It will tell you if there are any faults. And if there aren't, away you go.

Of course, we have some hope that we can use the modern electronic world to perhaps either do this remotely from driving by some unmanned facility, other ways that almost remove the need to go into have a smog check as long as your system is saying that your car is okay.

BOARD MEMBER SHERRIFFS: Or get an electric car.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Don't have OBD on electric cars.

MSCD CHIEF CROSS: That success is why we pushing this industry to go as fast as it. They're so far behind the light-duty industry. Obviously, when you get to the point where the OBD really works, we have a good situation

in terms of making sure the vehicles comply.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: On heavy-duty, I want to point out that the regulation of heavy-duty engines is for 435,000 miles. The warrantee is for 100,000 miles. The lifetime is a million miles. So we have a huge period of time in which kind of our ability to influence the designs and durability system is non-existent. So OBD is the only thing that goes for the life in the vehicle. And it gives us a way and technicians a way and operators a way of figuring out whether there is something wrong with their truck out of those long years. That is why we put so much weight on it. If it seems like we're pushing hard on certain sectors or really trying to make this be a perfection system, it's really because we've got to have something out there that will cover the emissions. Right now, in our inventory, the largest source of what would be called excess emissions that we're still trying to deal with are heavy-duty NOx --

CHAIRPERSON NICHOLS: In-use vehicles.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: -- from in-use vehicles, largely after 500,000 miles. And that's one of the major challenges that might keep us from -- the moment it's a barrier to say we're going to be able to meet the ozone standard because we have to figure out a

way of reducing those emissions. And we'd love to think these systems are so durable that they'll last a million times. But we didn't just fall off the turnip truck on this one. We have too much experience knowing this doesn't happen. So OBDs are our life vests for the life for this.

BOARD MEMBER SPERLING: So you're saying that in a sense the OBD putting them into the new vehicles will provide us information to know whether the systems really are durable and whether we need to do something further at some point in the future. Is that what you're saying?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Yes. But that's just half of it.

I think the OBD itself corrects problems. Just like we do smoke inspections now at the roadside for trucks, we'll do OBD inspections. And so if the light is on, you have to get it fixed. And you get a penalty if you don't. It's for the interstate trucks.

So it has a deterrent effect of driving a vehicle that's got broken and it's broken in some way. And on top of that, many times people don't know there is a problem. Doesn't effect performance. Catalysts have gone dead or there is a crack in the PM filter and the driver's not going to know that. With OBD, they will know it.

CHAIRPERSON NICHOLS: So there are actual

emissions reduction associated with this program. And that's really the key.

Ms. Berg, do you have your hand up?

BOARD MEMBER BERG: I just wanted to follow up on Professor Sperling's comments in light of Mr. Cackette's comments.

It seems to me that if -- getting back to the CNG that if there is OBD on the engines now, that it shouldn't take five years to coordinate the CNG part of it.

So I guess I'm not suggesting we do anything today, but it certainly seems to me if we are pushing the hybrid, which I agree with, that we also should be pushing the alternative fuels, including CNG, to come to the table sooner or later, not five years down the road. That's one of my comments.

The second comment is on the PM phase-in. And since we are pushing technology on that, would we be looking at some type of review between 2014 and '15, when we do expect them to go from 20 percent to 50 percent? Because it does seem that maybe do I understand correctly that we're still in a pushing technology position?

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: Definitely. Typically -- just one clarification.

What we posed in the reg is an option. Either a manufacture puts it in on 20 percent of 14 model year and

carries that or he waits until 2015 and does it on 50 percent. It's not a bump up from 20 percent to 50 percent in that time frame. It's manufacturer can be on either path.

And the reason we created the two paths is after meeting with all the manufacturers, we saw some were clearly set up to do it earlier on a smaller percentage. Some had -- the way their engine model turnover was working better set up to do a larger chunk in the '15 model year. So we create those two options to get them that.

But typically we would shoot for something like a biennial review. It's probably more complicated every three years than every two years most of the time. But certainly just like we've done before, we would commit to monitoring manufacturers on progress on this. We certainly have a couple relief mechanisms in the regulation we can pull if we don't have time to get back to the Board. In theory, we have the time. We can come back to the Board with changes and codify those changes if the technology still doesn't mature fast enough.

BOARD MEMBER BERG: It seems we are -- it is incumbent on us to make sure if we are putting 50 percent of a sensor on vehicles that they work at 50 percent. We got to have a percentage out there to know what we need to

do and to test, but 50 percent would be that number.

So I would encourage staff, given this very tight time line on still technology pushing sensors, that we monitor that very carefully and that we get back on whatever we need to do. If that's the Executive Officer has the ability to be able to monitor and make sure that we're not putting sensors out there that aren't making a difference. Thank you.

CHAIRPERSON NICHOLS: Specifically, we would ask for a review then.

EXECUTIVE OFFICER GOLDSTENE: I was just going to say that. So we'll commit to a review. As soon as we have more information, come back. I don't know what the exact timing would be when we have enough information to present a comprehensive report for the next year and a half or two years.

CHAIRPERSON NICHOLS: Okay. Dr. Balmes.

BOARD MEMBER BALMES: So I have that informational question that doesn't relate to heavy-duty vehicles, but to my own passenger vehicle.

Like Mr. Cackette, I drive a Jetta TDI. When I took it in for smog check to the place I had always gone to, he said he couldn't use his diagnostic equipment and just sort of looked at it. Ran the engine. You know, fortunately smoke wasn't fuming out or anything like that.

CHAIRPERSON NICHOLS: This is a terrible story.

BOARD MEMBER BALMES: I was dismayed -- was this guy totally bad? Or is there a problem with the Jetta TDI?

CHAIRPERSON NICHOLS: Do we have his address?

BOARD MEMBER BALMES: Yes, but I don't want to give that at this time.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, I go out with a white handkerchief and wipe my tailpipe just to make sure everything is okay.

But the new test on it will be OBD test. So the reason they don't want to test them in general is because some of the vehicles that are subject to the test don't have particulate filters on them yet. They're older models. If you run that particulate through that sampling system, it basically messes it up. So that's why there is essentially a smoke test, which is not very effective outcome.

But as soon as we get the OBD in place, because you have a newer one that has a particulate filter on it, it will get an OBD check. And that's what will determine whether you pass or fail.

BOARD MEMBER BALMES: Thanks.

CHAIRPERSON NICHOLS: So we have an ARB Board member who's flouting the emissions laws; is that what

you're saying here?

EXECUTIVE OFFICER GOLDSTENE: He's just ahead of his time.

ADVANCED ENGINEERING SECTION MANAGER MCCARTHY: I would make one clarification there. We do have an OBD check in today's smog check equipment. But today's smog check equipment is very -- was designed ten to twelve years ago.

The reason he couldn't plug into your car is the technology on the standardized communications to the equipment has been updated. And the BAR equipment has not yet been updated. So the BAR, Bureau of Automotive Repair, their equipment.

So we have been actively involved in re-designing BAR's inspection equipment. And they're about to launch a speck for updated inspection equipment to coincide with going to an OBD-only test. From that point on, they will be able to plug into your car and use the OBD information.

BOARD MEMBER BALMES: I like that answer.

CHAIRPERSON NICHOLS: Okay. Great. We have a motion and a second to approve the staff recommendation.

So I'll call for a vote at this point.

Would all in favor please say aye.

(Aye)

CHAIRPERSON NICHOLS: Opposed? Abstentions?

Okay. We're done. And thank you very much.

We will be moving onto our third and last item next, which is the proposed amendments for the verification procedure, warrantee, and in-use compliance requirements for in-use strategies to control emissions from diesel engines. That's a mouthful. This relates to diesel particulate matter.

We've identified diesel particulate matter as a toxic air contaminant going back to 1998 and a later approved a Diesel Risk Reduction Plan in 2000. And since that time, the Board has had as one of our primary goals the reduction of emissions of diesel particulate matter from our existing on-road fleet of vehicles. Meeting these emission reduction goals requires strict emission standards for new diesel engines as well as numerous regulations specifically targeting emission reductions from existing diesel engines.

To effectively support the Air Resource Board's in-use diesel engine regulations in 2002, the Board approved a procedure to verify that diesel retrofits are effective and durable. The verification procedure lays out the requirements that retrofit manufacturers must follow if they wish to participate in the California market. And since it was originally approved, the verification procedure has been amended several times to

improve its effectiveness and strengthen the benefits it provides.

In fact, the procedure was last amended in January 2010. But since that time, the staff has identified a number of elements that they believe could be improved or clarified to better evaluate diesel retrofits and reduce the cost of compliance while providing improved performance to the end-user.

So we're hoping that as a result of these changes we can speed up the process and make it more efficient, and at the same time, make sure that the devices themselves are better in the hands of the customers.

To address this, the staff is now proposing several amendments. And Mr. Goldstene will introduce this item.

EXECUTIVE OFFICER GOLDSTENE: Thank you, Chairman Nichols.

The verification procedure supports numerous in-use diesel emission control regulations by ensuring emission control technologies on in-use diesel engines perform as required.

Today, there are more than 60 different diesel retrofits systems that have been verified that reduce emissions of diesel particulate matter and in some cases also provide NOx reductions.

Recently, manufacturers of these device have approached ARB staff to express their concerns regarding slow sales. Those are partly due to the slow economy and also delays in implementation of several of the fleet rules so staff has been asked to evaluate the situation and, if possible, propose changes that would provide flexibility and reduce costs to the device manufacturers.

Staff has worked with industry to identify a number of changes to the procedures that will provide this flexibility without compromising the integrity of the process.

Staff has also identified additional changes intended to further the objectives of the verification program while strengthening protections for system purchasers. The proposed amendments will also address the safety of all retrofit devices, improve the screening installation process, strengthen ARB's ability to quickly and effectively address performance and safety issues, clarify the application and review process, and streamline in-use compliance requirements.

Finally, the proposed requirements clarify the warrantee reporting requirements for device manufacturers, the high back pressure notification requirements, and provide additional clarification to assist applicants to the verification process.

I'll now ask Mr. Keith Macias of the Mobile Source Control Division to provide the staff presentation.

(Thereupon an overhead presentation was presented as follows.)

IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Thank you, Mr. Goldstene. Good morning, Chairman Nichols and members of the Board.

Today, staff will propose a number of amendments to the diesel retrofit verification procedure. These amendments will provide cost savings to the manufacturers of retrofit devices, improve their performance in the field, provide better information to the staff during the verification process, and better support the in-use diesel fleet rules.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff's amendments today are based in large part on ten years of experience rolling out retrofits. From these experiences, staff is proposing amendments to further clarify and strengthen the overall program.

First, I will provide some background on the verification procedure. Next, I will discuss the proposed amendments, followed by staff's assessment of economic and environmental impacts. My presentation will conclude with a recommendation to the Board.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: The verification procedure was approved by the Board in May of 2002 to support the Diesel Risk Reduction Plan and its associated fleet rules. It is critical to ensure that the diesel retrofits used by fleets to comply with these rules achieve real reductions in emissions of PM and NOx and are reliable and durable. It is used by staff to verify the performance of retrofit systems for a broad range of diesel engines.

I will now give a brief overview of the verification process to give you a better sense for how our programs works.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: If a retrofit manufacturers wishes to sell a product as a compliance opinion in California, it must first obtain verification from ARB. In order to do so, an applicant must fully develop a market ready product and submit a complete application, including an appropriate test plan.

ARB staff then reviews this information and approves the test plan. The applicant is responsible for conducting all appropriate testing and submitting the test data. ARB reviews all the information and issues an

Executive Order if everything is complete and supports verification.

In-use compliance testing is the final part of the verification process. Applicants are required to select and test in-use systems to ensure they provide real and durable emission reductions to end users.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Many diesel retrofit systems have gone through this process and over 60 are currently verified for a variety of applications. These include 25 on-road systems, 24 off-road systems, 12 systems for stationary engines including several for port equipment, and there is even one system verified for marine vessels. The majority of these systems are diesel particulate filters that achieve a PM reduction of over 85 percent.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Since the adoption of the verification procedure in 2002, the sales of systems have steadily increased in California. Cumulative sales total approximately 50,000 systems.

Based on upcoming compliance deadlines from 2012 to 2016, staff estimates as many as an additional 60,000 sales due to the truck and bus regulation alone.

We have several activities intended to support compliance with ARB's in-use diesel rules, such as maintaining a diesel call center to provide phone assistance to fleets, providing compliance assistance through statewide training, and conducting highly visible public campaigns such as our gear up for Clean Truck Month program.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: The experience we've gained from over 50,000 retrofitted vehicles indicate that retrofit devices are reliable and effective and relatively few problems have come to our attention.

When problems are identified, most are installation and operational issues such as operators either ignoring warning lights or not being properly trained. To help assure that end users experience remains positive, we have appointed a retrofit advocate to work with system manufacturers, installers, and end users the help determine the extent and nature of any problems reported and work quickly to resolve them.

Also when appropriate, field staff are deployed to investigate any issues and ARB has acquired additional equipment that they can use to evaluate the vehicle or equipment engine as well as the retrofit system itself.

So what has ARB learned from these evaluations?

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Some of the key retrofit success are proper engine screening prior to installation, good installation practices, and ensuring system and end-users are properly trained in the operation and maintenance of their device.

ARB's investigations have found engines that were retrofit in a poor state of maintenance, which resulted in system issues, installation practices that varied significantly from installer to installer, and end-users that were unaware of how to respond to the warning lights of their retrofit systems.

Therefore, in addition to changes designed to reduce in-use testing costs for all manufacturers, staff is proposing amendments to the verification procedure to address each of these issues.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: I will now discuss staff's proposed amendments.

Due to the economy and fleet rule changes, sales of diesel emission control strategies have not grown as quickly as manufacturers expected. In response to this, staff received several proposals from the manufacturers which would lower costs but maintain the robustness of the

verification program. Staff evaluated these proposals and used them as the basis for the proposed amendments.

In addition to reducing costs to device manufacturers, staff is proposing several amendments to improve the verification process, increase program flexibility, and provide additional protections for end-users for these devices.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: To begin, I'd like to provide you with a brief overview of our proposed amendments.

Staff's proposal would: Streamline and reduce costs associated with the current in-use compliance requirements without reducing the robustness of the verification program;

Provide the Executive Officer with new recall authority to better protect end-users of these devices;

Clarify and improve existing end user warrantee protection;

Provide for enhanced pre-installation screening to ensure systems work correctly with the vehicle;

Include additional installation and minimum end user training requirements, resulting in better installation practices and end-user outcomes;

And clarify and better define the application and

review process to assist all applicants through the verification process.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: One of the most significant changes of our proposal will reduce the amount of in-use compliance testing required by applicants and increase unit sales before testing must begin. These changes will reduce in-use testing by as much as 50 percent, save each manufacturer approximately $83,000 per product, and allow them substantially more unit sales before testing must begin.

The proposed changes not only streamline the in-use process, but provide additional compliance flexibility, all while maintaining the overall stringency of existing verification program.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff's proposal also provides the Executive Officer with new recall authority. The addition of recall provisions will protect end-users while achieving the cost savings associated with the changes to the in-use compliance testing requirements. The proposed recall provisions are designed to require corrective action by the applicant for a systemic defect of their product or to

address issues of safety or catastrophic failure.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff is proposing that a potential recall would only be triggered under some very specific conditions, which include a failure to meet the conditions for passing in-use compliance, excessive warrantee claims rates, if a substantial number of systems experience a failure of a key operational feature, or the potential for catastrophic or other safety-related issues.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: The verification procedure provides warrantee protections that cover both the retrofit and its installation and information on warrantee claim is reported the ARB annually.

However, the reporting of warrantee information has been inconsistent and difficult to utilizes. Therefore, we've clarified the existing manufacturers and installation warrantee requirements and included additional reporting requirements for installer of ARB-verified systems that will address this issue. These changes will allow us to quickly identify and address any emerging problems or issues with verified devices.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff has encountered a small number of installations where problems have occurred, such as an installer failed to assess the condition of the vehicle's engine prior to retrofit.

As a result, staff's proposal includes enhanced pre-installation compatibility assessment requirements.

One of the keys to successful retrofit operation is properly trained installers and end users. To ensure this, staff's proposal requires verification holders to provide added oversight during the installation process by authorizing their installers and by specifying minimum end-user training requirements. These changes are based on staff's experience in the field and will address in-field issues, result in successful device operation, and better protect end users.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Since the start of the program, staff has continued to gain valuable experience and stakeholder feedback that point out ways in which the program can be improved.

The remaining amendments reflect this input by:

Clarifying the application and review process in response to industry comments to ensure a more timely

review;

Clarifying items such as design modification, labeling requirements, system sizing, and emission control groups to ensure applicants can provide a more complete verification application;

And clarifying test procedures and system requirements to better protect end-users of these devices.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: In the developing the proposed amendments, staff held two public workshops in El Monte to solicit input from all interested stakeholders. The workshops were well attended by representatives from the emissions control manufacturing industry, retrofit installers and other interested parties.

In addition to the workshops, staff also met multiple times with the association for this industry, manufacturers of emission controls association, MECA, and its individual retrofit manufacturers and installers.

Staff considered comments brought forth by MECA and individual companies alike and incorporated appropriate comments into the proposed amendments.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Based on comments received during the 15-day

comment period, staff is proposing a number of 15-day changes that would better clarify staff's proposal and facilitate warrantee repairs.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: I will now discuss the impacts of our proposal and then provide staff's recommendation.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff does not anticipate any significant environmental impacts from the proposed amendments. The proposed amendments are intended to provide cost savings to device manufacturers through the proposed changes to in-use testing requirements.

Overall, staff's proposal is estimated to provide a net savings to industry of approximately $2.1 million to $5.6 million. This net savings takes in account lower in-use testing costs and the new recall provision. However, the installation warrantee reporting requirements will result in a small additional cost to each installer, and staff estimates this amount to be about $960 per year.

Furthermore, the proposed amendments should provide additional cost savings to consumers by providing better assessment of vehicles prior to retrofit, better installation, practices, fewer in-field issues and less

down time, and helps to ensure proper training to end users.

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IN-USE COMPLIANCE AND EVALUATION SECTION MANAGER MACIA: Staff recommends approval of the proposed amendments. Thank you for your attention.

CHAIRPERSON NICHOLS: Thank you.

Any questions before we go to the testimony?

If not, we have three witnesses who have signed up, beginning with Dr. Brezny again from MECA, and then Gary Simons and Frank Haas.

DR. BREZNY: Thank you, Chairman Nichols and members of the Board. I am still Rasto Brezny with the Manufacturers of Emissions Controls Association.

And MECA has been engaged with your staff in developing and implementing this regulation since the very beginning, which is now ten years ago. We started working on the latest round of changes soon after the Board adopted economic relief amendments to the fleet rules as a way to provide some relief to VDECS manufacturers due to the significant decline in retrofit opportunities.

We thank the Board for initiating this process. And we thank your staff for working with all the stakeholders for the last 18 months in bringing this proposal.

We submitted detailed comments and reviewed them with the staff, so today I just want to focus on providing a backdrop for our recommendations.

I guess we fully support the parts of the proposal aimed at clarifying the requirements and reducing the costs. And in particular, I think the changes to the in-use compliance process are significant. Not only will they reduce cost, I think they'll help identify field issues quickly.

And we also strongly support the clarifications to the safety requirements. I think this attention by staff to safety early on in the process during the preliminary application I think is responsible for the exemplary safety record that retrofits have experienced in the field.

Our recommendations really focus on several of the proposed changes that impose new costs on verifications. We're in the final years of the retrofit era. Off-road retrofits are now voluntary compliance option. On-road retrofits have been significantly reduced to less than 60 percent from the original truck and bus rule.

In fact, a recent survey of MECA members indicates that for the first six months of this year, retrofit sales are actually at eight percent of those

original projections. That's how we believe that enforcement the fleet rules is an essential component of meeting the emission targets of the Diesel Risk Reduction Plan.

Manufacturers have only a handful of years remaining to recoup their investments in retrofits. That's why we're concerned it still takes two to four years to get a verification through. We have changed this regulation five times now over the last ten years. I think we should be at a stage now where we are making changes that are absolutely necessary to address specific performance or safety aspects that are found in the field.

Once again, I want to thank your staff for the hard work and the consideration of our recommendations. And I would be happy to address any questions you might have.

CHAIRPERSON NICHOLS: Thank you. We'll call you back if we need you. Thanks.

Gary Simons.

Mr. SIMONS: Thank you, Chairman Nichols and members of the Board.

My name is Gary Simons with the Donaldson Company. Donaldson is a worldwide filtration supplier to the transportation industry and we have been for nearly 100 years. Our exhaust and emissions business is

producing emission devices for the California and EPA market for more than a decade. We have designed and manufactured hundreds and thousands of emission systems both for OEMs and retrofit customers. The goal of our business is to provide quality products that will help make the air cleaner.

As you're well aware, this is the latest round of rule changes affecting the retrofit business. Each of the changes that's been made has required additional resources from our company to understand, implement, and monitor. While the intent of the rule change, this most recent, one was to provide relief to manufacturers, we see added burdens as more than offsetting the in-use requirements.

We thank the staff for recognizing that the current in-use plan was excessive and dialing it back the a more practical cost-effective plan. However, the numerous new requirements decrease the certainty of this business, while increasing the cost for ourselves and our installers.

The recall provisions alone represent a significant risk for two reasons. One is the volume of these systems are often quite low. It will only take a few instances of a problem to hit the four percent threshold, thus forcing a comprehensive campaign when addressing a few of the issues might be more practical.

The second reason is the time associated with ARB approval of any corrective action. We had to wait nearly a year to approve -- have ARB approve a relatively minor field fix to address a back pressure monitor software issue that we had found. Over the course of that year, we had to explain to our increasingly unhappy customers that our hands were tied as we awaited for ARB approval. Dealing with the added reporting effort associated with this rule will increase ARB's workload and further increase the times available for verifications and corrections. This is just one example.

Others include requirements for safety testing that has no accompanying industry standard, times lines associated with pre-assessment testing that may or may not be practical, possibility of supplying market-ready systems that may or may not align with current inventory or practical lead times, and implementing training for all end users, some of whom are reluctant to get training.

We agree that most of the rules are reasonable. The cost of implementing at this time is late in the life cycle. Our recommendation is to keep only the changes associated with meeting in-use compliance testing language and improve the language where it's needed. Thank you.

CHAIRPERSON NICHOLS: Thank you.

Mr. Haas. And we do have one more witness who's

name was omitted because he forgot the sign in, Kevin Brown. So he'll be the last.

MR. HAAS: My name is Frank Haas. I'm here to represent ESW Group, manufacturer of aftertreatment systems. Thank you for the opportunity to share my concerns.

The re-write of the addendums requested by the Board do not in the opinion of ESW provide any relief or make it easier or quicker for new product verification to occur. This is of particular concern as a recent market needs revisions as indicated by previous speakers indicate a much smaller than anticipated marketplace for the near future.

Instead, in our opinion, the presented changes provide clarification of the processes involved and taking into account the process of augment over the years. Aside from not meeting the direction given by the Board, I would like to share some concerns resulting from the presented material.

One particular, ARB does not have any particular time lines to adhere to in the responses, yet the manufacturer has very strict days to comply with the regulations and the responses.

Second, the high back pressure notification values do not necessarily reflect the variety of already

available control algorithms in the marketplace. Such fixed values and algorithms may mean additional burden and cost for manufacturers to provide a cost competitive and reliable product in the marketplace.

The strict layout of responsibility levels for tracking the devices and installations are certainly appreciated, as it provides clarity. However, these high standards can only be achieved if the manufacturer appropriately accounts for them at the time of sales. The current economic and competitive marketplace situation is leaving no room for any financial provisions of such activity.

The same applies to the pre-installation assessment. It only adds cost burden. Not that we disagree with the pre-assessment requirement, but the way it is written in the regulations is not giving us the flexibility to do the job.

The warrantee requirement and reporting, it's clear that it is very clearly understood by industry. However, the administrative burden is huge for manufacturer. This again is providing additional cost consideration.

Same applies for the in-use compliance testing. We appreciate the dialing back of the requirements, as the previous speakers have noted. However, it doesn't reflect

necessarily how one goes practically about meeting these requirements. It is a very theoretical approach.

Those are my comments. Thank you very much.

CHAIRPERSON NICHOLS: Thank you.

Mr. Brown.

MR. BROWN: Good morning, members of the Board.

My name is Kevin Brown. I'm the Regulatory Affairs Manager of Engine Controls Systems, which is a heavy-duty systems division of Clean Diesel Technologies normally commercially known as CDTI.

CDTI Headquartered in Ventura, California. We maintain staff in the heavy-duty systems division in Ventura office as well. We have a catalyst manufacturing facility in Oxnard, which produces primarily light-duty automotive catalysts. For example for Honda Motor Car Company. Also produces catalyst for heavy-duty systems division.

What I want to keep my comments focused on today is specifically the changes proposed to the format of logging data and the operational system monitors. This is coming very late in the game. And in the Initial Statement of Reasons, staff identifies that most manufacturers already meet them. But it doesn't say all manufacturers. And then there is no cost assessment of what might exist for some manufacturers to become

compliant simply to adopt a standardized format for the logged data.

So we respect to that, I'm here to say the cost of such changes late in the game are very significant depending upon what is required to resolve the differences. Some things are sometimes minor software fix. Sometimes it's a significant hardware circuitry fix. And when you're talking about electronic circuits for the monitors system, it's a relatively modest cost. But it's got the longest supply chain. It's also has the potential to keep you from selling the entire system if it's not deemed to be compliant. It also forces you to go back through re-verification activities to have a new monitor.

Lastly, the time at which a change becomes effective is also critically important to its cost. You've heard today that the sales are low. We expect a large surge every fourth quarter because the fleet rules is where most of the sales occur. If these changes get implemented around this time of year when inventory levels are the highest, when the sales are the highest, it has the greatest potential to impact with cost or lost sales.

So with respect to that, we would still think there's greater flexibility required that the justification for changing simply the log format of the data isn't sufficient enough to merit these changes that

were made with respect to our system monitors.

The last comment I will add is that since off-road retrofits for mobile equipment are basically a voluntary requirement, there is no difference between them now and those retrofits that occur outside the state. I you think there is still huge opportunities to streamline the program to EPA so that the highway verifications or other verifications where there's mandatory requirements are getting more attention from the resource of staff because of the mandatory nature of the business.

Thank you.

CHAIRPERSON NICHOLS: Thank you. That completes the list of witnesses that I have.

If there is no one else, we'll close the record and move towards discussion on this issue.

Did you have any closing comments, Mr. Goldstene?

EXECUTIVE OFFICER GOLDSTENE: Just that the amendments provide the flexibility sought by the manufacturers without compromising the stringency of the verification process.

CHAIRPERSON NICHOLS: That's the balance, isn't it? Okay.

If there are no additional comments by the staff, let's move to discussion at the Board level.

Ms. Berg.

BOARD MEMBER BERG: In talking about that flexibility, could you elaborate on our last speaker's comments in streamlining that we've adopted it seems -- this is proposing that we adopt the standard format. And there seems to be some proprietary systems out there. Is there going to be the flexibility for those manufacturers that have these proprietary systems and how do we see that working?

ASSISTANT CHIEF WHITE: Thank you, Ms. Berg.

This is Eric White with the Mobile Source Control Division.

As we've looked at what -- as we've gained experience, I should say, in looking at retrofits that have been deployed over the years, what we found to be extremely valuable is the information that's stored by the device's control module in terms of the back pressures and other types of parameters that have been seen. And all of those systems are proprietary. They're unique to each manufacturer. So what we have seen though is that we've gone in and tried to look at that data and understand when there is issues in the field, there's different levels of detail that's in there depending on whose system it is. And that what has been extremely valuable as we look at temperature and back pressure, other things that the device has seen as it's being used to try to understand

what happened when there is an issue. Understanding when it happened as well is a critical piece of information that we need to know.

So staff's amendments are really trying to get some standardization in terms of the type of information that's being collected so we can go back and if we need to evaluate something that may have happened or, if fact, if the manufacturer needs to go back and evaluate a warrantee claim, that that information -- that consistent information is there.

So we are not dictating necessarily how they're collected and what the system to collect it needs to be. Simply, what type of information needs to be there. And that would be information on temperature, on back pressure, and the date and time stamp of that information as well. So we have the detailed resolution of the data to go back and really see what happened, if there is an incident in the field.

BOARD MEMBER BERG: And this is going to apply for new verifications, not verifications that are existing in the field today.

ASSISTANT CHIEF WHITE: Correct. And staff can correct me if I'm wrong. They will not be required to go back and retrofit or replace the systems been deployed. Just new systems that would be verified moving forward.

While I think it's important, while you saw it was noted earlier that the retrofit business here in California is in its waning days so to speak that there is a clear end from the truck and bus truly when the retrofits need to be installed. When you look at the number that's going to be installed over the next several years, we are nearly doubling the number of retrofit vehicles in California that we have today. It will be important to make sure in the future moving forward when those systems are deployed that this new information and these provisions are implemented. So as those devices are deployed, we're going to have the same ability to go in and kind of what was going on on the vehicle if there is a problem moving forward.

BOARD MEMBER BERG: What about the verifications that are in the pipeline right now? Where do they fall? Do they fall under grandfathering or under the new --

ASSISTANT CHIEF WHITE: We would look to have these amendments incorporated into the monitors that are going to be on those vehicles.

And I think it's important to note as we've gone back and looked at what type of impact this would have, 90 percent of the systems that are in the market today can already do this. So this is very common practice. This is what is typical on systems that are already in the

field today, already on vehicles in operation. So we're looking to bring that last ten percent in line with where the other 90 percent is.

BOARD MEMBER BERG: Okay. Thank you.

And the last comment or the last thing I'd like a comment on is ARB's response on that was brought up by several of the testifiers.

CHIEF LEMIEUX: As you know, the verification procedure, it's not as prescriptive as, say, a new engine certification. And the reason why is because we allow a lot of flexibility in what type of engines that manufacturer needs to test, what type of test procedure, test cycle they can run, et cetera.

If you look at a typical verification attached to it is hundreds of engines that that verification can be applied to. So looking at the emission control group that a single verification can apply to would account for several hundred certifications. So many times, the delays that we have seen as staff is when manufacturers have come to us and they haven't exactly used the prescribed test procedure. We do try to work with them. There's quite a bit of back and forth during the procedure. There has been instances where durability demonstrations have completely failed. A manufacturer has to start again. At times, manufacturers have also modified their systems

during the course of the verification.

So there has been worst-case scenarios where it has taken a while. But we also have when all the information is at hand and it's done properly, we have issued verifications within six weeks.

BOARD MEMBER BERG: So we do benchmark these delays and discuss them within the unit that you're comfortable, you have the resources and manpower that you need to accomplish the task in a timely manner?

CHIEF LEMIEUX: Yes, I would say that. That we have -- you'll see in the verification procedure we have added language where if a manufacturer hasn't provided a response within three opportunities that we basically we kick them out of the system. And before, we hadn't had that type of language in there because we've always tried to work with manufacturers, tried to get them through the process. And at times, verifications have languished wished and there hasn't been much activity on them. So in that instance, that's when we've seen significant delays.

So we have tried to add language more specificity on what is needed in the verification process. And so, you know, some of the stakeholders have characterized this as new, but we don't see it as new. We just see it as clarifying language and a way to make sure that the process goes a little smoother.

BOARD MEMBER BERG: Thank you very much.

CHAIRPERSON NICHOLS: Mrs. Riordan.

BOARD MEMBER RIORDAN: Yes. There was in the testimony by Mr. Simons I think a question about specifying training requirements for the device end-users. And I'm going to give you a little bit of a personal situation and tell you why I'm absolutely supporting this. And I commend the staff for including it.

In the district that I represent, there is a great deal of mining equipment, big heavy pieces of equipment. They're well over a million dollars and make the difference whether the facilitate can operate or not. And we had required devices to be installed and appropriately. And they had a great deal of difficulty. And of course, my horror was, oh, my gosh. What did we require and their equipment is not working? Fortunately, called the staff and the staff responded and went out and made a field review of the situation. And it turned out that it was a matter of training for the end user to be able to use that retrofit device correctly.

And so I'm absolutely supportive of that and the outreach that we are doing, because I think sometimes it's very simple. And we assume the manufacturer or the installer would have done the training, but it didn't occur.

So we want to be sure that the end user knows how to operate this equipment effectively. Because otherwise, businesses, in particular this one, would have to shut down periodically while this device cooled off. And so it's very important. Seems like a funny thing to put in a requirement, but believe me, it makes good sense.

CHAIRPERSON NICHOLS: Thank you. That's a good illustration. Any other questions or comments?

If not, can we have a motion to approve?

BOARD MEMBER RIORDAN: I would move approval, Madam Chair, of this particular item and staff recommendation.

BOARD MEMBER D'ADAMO: Second

CHAIRPERSON NICHOLS: Thank you. There was a second.

If there are no further comments, then all in favor please say aye.

(Ayes)

CHAIRPERSON NICHOLS: Any opposed? All right. Thank you very much.

That concludes the agenda, except for the public comment period if there are any persons who come to make general public comment to the Board. I don't see any.

We are scheduled for a closed section. And so I'm not going to adjourn the meeting, because I will come

back when we finish that and report if there is any action taken in the closed session. So we'll just adjourn briefly but not end -- or take a recess.

(Whereupon the Board recessed into closed session at 11:22 AM and returned at 12:26 PM.)

CHAIRPERSON NICHOLS: Thank you. We're back in session, the Air Resources Board and we've concluded the closed session. We discussed a personnel matter. No action was taken.

So with that, we will adjourn the meeting. Thanks, everybody.

(Whereupon the Air Resources Board adjourned at 12:29 p.m.)

CERTIFICATE OF REPORTER

I, TIFFANY C. KRAFT, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Tiffany C. Kraft, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 7th day of September, 2012.

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TIFFANY C. KRAFT, CSR, RPR
Certified Shorthand Reporter
License No. 12277