APPEARANCES

BOARD MEMBERS
Ms. Mary Nichols, Chairperson
Dr. John R. Balmes
Ms. Sandra Berg
Ms. Dorene D'Adamo
Mr. Ronald Loveridge
Mrs. Barbara Riordan
Mr. Ron Roberts
Dr. Daniel Sperling
Dr. John Telles
Mr. Ken Yeager

STAFF
Mr. James Goldstene, Executive Officer
Mr. Tom Cackette, Chief Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
Mr. Mike Scheible, Deputy Executive Officer
Ms. Lynn Terry, Deputy Executive Officer
Mr. Gerhard Achtelik, Zero Emission Vehicle Infrastructure Section
Ms. Analisa Bevan, Chief, Sustainable Transportation Technology Branch
Mr. Bart Croes, Chief, Research Division
Mr. Bob Cross, Chief, Mobile Source Control Division
APPEARANCES CONTINUED

STAFF

Mr. Craig Duehring, Zero Emission Vehicle Infrastructure Section

Dr. Susan Fischer, Climate Action and Research Planning

Ms. Kim Heroy-Rogalski, Off-Road Implementation Section

Mr. Bob Jenne, Assistant Chief Counsel

Dr. Eileen McCauley, Atmospheric Processes Research Section

Ms. Elizabeth White, Mobile Sources Control Division

Mr. Erik White, Chief, Heavy Duty Diesel In-Use Strategies Branch

ALSO PRESENT

Mr. Charlie Cox, Ironman

Ms. Debbie Day, Engineering & General Contractors Association

Mr. William E. Davis, Southern California Contractors Association

Ms. Lynn Devine, American Lung Association

Mr. John Dunlap, American Home Furnishings Alliance

Mr. Sean Edgar, Clean Fleets Coalition

Mr. Scott Erreca, Erreca Inc.

Mr. Jeff Farano, SA Recycling

Mr. James Gaspard, Design Line

Mr. Joshua Goldman, Proterra

Mr. Bill Guerry, National Marine Manufacturers Association

Mr. Henry Hogo, South Coast Air Quality Management District
APPEARANCES CONTINUED

ALSO PRESENT

Mr. Mike Hursh, Santa Clara VTA

Mr. Glenn Inverso, M.J. Baxter Drilling Co.

Mr. Paul Jablonski, Metropolitan Transit System

Dr. William Jefferds, Southwest Defense Alliance

Mr. Joseph Kubsh, Manufacturers of Emission Control Association

Ms. Dana Lee, Long Beach Transit

Mr. Bob Leiter, San Diego Association of Governments

Mr. Jamie Levin, Alameda-Contra Costa Transit District

Mr. Michael Lewis, Construction Industry Air Quality Coalition

Mr. Clayton Miller, Construction Industry Air Quality Coalition

Mr. Steven Miller, Golden Gate Bridge Highway & Transportation District

Mr. Jim McElroy, California Transit Association

Mr. John Paliwoda, California Motorcycle Dealers Association

Dr. David Parrish, National Oceanic and Atmospheric Administration

Mr. H.E. Christian Peeples, Alameda-Contra Costa Transit District

Mr. Nick Pfeifer, Granite Construction

Mr. Tim Pohle, Air Transport Association

Mr. Durand Ral, Omnitrans

Ms. Alexandria Sanchez, Field Rep for Assemblyman Joel Anderson
APPEARANCES CONTINUED

ALSO PRESENT

Mr. Mike Shaw, Perry & Shaw, Inc.

Mr. Kenneth Stewart, UTC Power

Mr. Tom Swenson, Cleaire Emission Controls

Mr. Glen Tepke, Metropolitan Transportation Commission

Ms. Kerri Toepfer

Mr. Gene Walker, Golden Gate Bridge Highway & Transportation District

Ms. Donna Wilson, Outdoor Power Equipment Institute
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CHAIRPERSON NICHOLS: Good morning, ladies and gentlemen. This is our first meeting of the Air Resources Board in this particular chamber, which is why we're having a little lesson in how to operate our microphones and acclimatizing ourselves. But we are very happy to be in this lovely building, and we want to thank Supervisor Roberts for having invited us down here and been such a good guide and host. And if the Chamber of Commerce isn't paying him to be an advocate for San Diego, they should, because he is a terrific exponent for all the good things that are happening here in San Diego.

So --

BOARD MEMBER ROBERTS: Could I officially welcome you.

CHAIRPERSON NICHOLS: -- I think we have official remarks.

Please.

BOARD MEMBER ROBERTS: We have a couple local blogs who will probably find a great relationship between this Board meeting here and the Comic-Con convention that's going on. And I hope you won't be insulted by any of that. I've learned to ignore most of them.

But I appreciate you coming to San Diego.

Because the work that this Board has done over the years
is so significant, I think it's good throughout the State for people to have a better chance to see in person and hold accountable as need be those who are making the decisions.

But we hope you have a good visit in addition to this meeting.

CHAIRPERSON NICHOLS: Well, thank you. I was going to say that yesterday I encountered quite a number of people who are here in town for the Comic-Con as I was walking around downtown San Diego. And I was actually thinking about trying to get myself a big fuzzy purple wig, but I couldn't find one anywhere. So I'm kind of stuck with --

BOARD MEMBER ROBERTS: We'll have one before the meeting's over.

CHAIRPERSON NICHOLS: Thank you very much. And we appreciate the leadership of San Diego on air quality issues. And actually, as you know, I was here yesterday in order to announce a grant from the federal stimulus money for the San Diego School District to use for retrofitting buses. Supervisor Roberts was with me. We had a nice turnout of people from the community college who are actually working on doing the retrofits as well as the local company that is manufacturing a number of the devices. And it was really a well attended press
conference and a wonderful project.

BOARD MEMBER ROBERTS: For the other Board members, in attendance at that meeting was our Executive Director of the local San Diego Air Pollution Control District. He's in the audience. I'm going to ask him to stand just so I can introduce him. Bob Kard, who's been here a little bit over a year now, a Californian that got lost for awhile over in Arizona and has come back, and is doing a terrific job for us.

MR. KARD: Good morning, Board members, Chairman Nichols. Thank you for your being here today. We wish you a warm welcome.

I also want to express my appreciation for all the things you've done over the years. I've been in air pollution roughly 28 years now throughout California, brief time in Arizona, couldn't wait to return.

But you folks really are cutting edge. And as I said yesterday, I think the air pollution efforts represent the best of the best in government. And so thank you for being here, thank you for all your efforts. And if there's anything I can do for you, feel free to call upon me.

Thank you.

CHAIRPERSON NICHOLS: Well, you've done a good job with the air quality today, so we appreciate it.
MR. KARD: Thank you.

CHAIRPERSON NICHOLS: Thank you.

All right. With that, I think the public meeting will officially come to order and we will begin with the Pledge of Allegiance if folks will stand and face the flags, which are behind us.

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

CHAIRPERSON NICHOLS: The clerk will please call the roll.

BOARD CLERK VEJAR: Dr. Balmes?

BOARD MEMBER BALMS: Here.

BOARD CLERK VEJAR: Ms. Berg?

BOARD MEMBER BERG: Here.

BOARD CLERK VEJAR: Ms. D'Adamo?

BOARD MEMBER D'ADAMO: Here.

BOARD CLERK VEJAR: Ms. Kennard?

Mayor Loveridge?

BOARD MEMBER LOVERIDGE: Here.

BOARD CLERK VEJAR: Mrs. Riordan?

BOARD MEMBER RIORDAN: Here.

BOARD CLERK VEJAR: Supervisor Roberts?

BOARD MEMBER ROBERTS: Here.

BOARD CLERK VEJAR: Professor Sperling?

BOARD MEMBER SPERLING: Here.
BOARD CLERK VEJAR: Dr. Telles?

BOARD MEMBER TELLES: Present.

BOARD CLERK VEJAR: Supervisor Yeager?

BOARD MEMBER YEAGER: Here.

BOARD CLERK VEJAR: Chairman Nichols?

CHAIRPERSON NICHOLS: Here.

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

CHAIRPERSON NICHOLS: Thank you very much.

A couple of announcements.

If there's anyone who's not familiar with our process, if you are planning to testify on any item, we appreciate it if you would fill out a card with the staff and turn it in. You have the option to include your name, but it's not required.

Also, we will be imposing our usual three-minute time limit on speakers. We appreciate it if when you come up to the podium, you simply give your name and then summarize your testimony briefly. Your written testimony, if you have any, will be entered into the record.

As I understand it, because this building is new to us, we have an exit at the back of the room there. In the event that we were required to evacuate the building due to fire or some other emergency, there would be flashing lights and sound and some spoken instructions as
well, and we would be asked to exit immediately either in
the back or here in the front.

In the event of an emergency, we're asked to walk
to the nearest exit, proceed down the stairs and out of
the building. The elevators will be inoperable.

And I think that's all I have by way of
housekeeping announcements.

The first item on the agenda is an informational
update from the realm of climate science. Board members
have asked for staff to provide us with regular updates on
recent research. Today's presentation will highlight some
findings that were presented at a recent ARB-sponsored
symposium in Sacramento known as the Haagen-Smit
Symposium.

Mr. Goldstene, would you please introduce this
item.

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

In June, ARB held its ninth annual Haagen-Smit
Symposium in honor of the late Dr. Arie J. Haagen-Smit, our first chairman and pioneer in air pollution science
and regulation.

The 2009 Haagen-Smit Symposium brought together a
distinguished and influential group of policymakers and
leading researchers to discuss climate-forcing pollution
that is not fully addressed by current climate policy,
such as non-Kyoto Protocol pollutants like black carbon.
Dr. Susan Fischer of the Research Division will provide an overview of the symposium and the policy implications.

Dr. Fischer.

(Thereupon an overhead presentation was Presented as follows.)

DR. FISCHER: Thank you, Mr. Goldstene.

Good morning, Chairman Nichols of the Board.

Today's climate change science update focuses on findings presented at the recent Haagen-Smit Symposium, which brought 80 influential decision makers and researchers to Sacramento to exchange ideas at the intersection of climate policy and emerging science.

Professor Arie Haagen-Smit, for whom the symposium is named, is shown here operating an earlier mobile monitoring platform to research photo chemical smog in 1950s Los Angeles.

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DR. FISCHER: Since 2001, at the direction of the our former Chairman, Allen Lloyd, ARB has sponsored annual symposium to foster discussion and interaction among policymakers, researchers, environmental and health advocates, and other stakeholders.
Each symposium focuses on a topic that is at the forefront of major policy decisions and offers a fertile incubator for important policy initiatives, with participants representing a broad and influential cohort.

ARB has had great success attracting high caliber national and international figures who have brainstormed such initiatives as the goods movement emission reduction plan and the low carbon fuel standard.

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DR. FISCHER: The topic of this year's symposium, addressing the missing pieces of California's carbon footprint, refers to the fact that some climate-active pollutants are not fully integrated into current policy and some emission sources are not included.

For example, the climate impacts of black carbon are not accounted for by current policies, and emissions from international aviation and imported goods are not part of state or national emissions inventories.

The symposium also showcased international efforts to address some of these missing pieces as well as tools available to businesses, individuals, and local governments to help promote voluntary emissions reductions. Today I'll present highlights from the symposium and opportunities for ARB to respond to emerging climate science.
DR. FISCHER: Since the intergovernmental panel on climate change issued its fourth assessment report in 2007, several other influential reports and peer-reviewed scientific papers have been released. These works bolster confidence in climate models. Recent trends agree with projections, giving no indication that models are overly pessimistic. Mechanisms and strength of positive feedbacks are also becoming more clear.

Positive feedbacks which amplify climate impacts include decreased carbon uptake of tropical forests, slowed ocean uptake, and permafrost thaw.

Emissions of greenhouse gases show a sobering trend. Since 2000, the rate of emissions growth has nearly quadrupled relative to the final decade of the twentieth century. We have been on an emissions trajectory higher than anything analyzed in depth by IPCC. Although the current recession is decreasing emissions. Another sobering finding is that much of the warming to which we are already committed by past emissions has been masked by cooling effects of organics and sulfates contained in PM2.5.

A growing number of scientific experts now contend that the blanket of man-made gases already surrounding the earth is sufficient to push the climate
The magnitude of recent emissions, strength of positive feedbacks, and specter of hidden warming underscore the need to make dramatic emissions reductions as soon as possible.

In addition to reducing total warming, we must target reductions that will slow the rate of warming to avoid pushing the climate system beyond critical thresholds during the climate stabilization period.

The graph shown on this slide shows the IPCC's 90 percent confident range for the committed warming that will result from emissions already released. Past emissions commit us to approximately 2.4 degrees Celsius warming, which, as you see on this graph, puts us at risk for dangerous changes to the climate. At present, we have only realized 25 percent of the committed warming since some of the warming is stored in oceans and some is shielded by particle and cloud effects.

Fortunately, significant near-term climate mitigation is possible through reductions in non-CO2 pollutants. These pollutants, which include methane, black carbon, and halocarbons such as ozone depleting substances, are responsible for approximately
the same amount of warming as CO2. Due to the relatively short atmospheric life times of methane and black carbon, and the high global warming potential of ozone-depleting substances and other halocarbons, reducing emissions of these pollutants results in relatively fast reductions in their climate impacts.

Reduction of these pollutants also addresses traditional air pollution risks.

Now I'll discuss opportunities and challenges associated with each of three non-carbon dioxide pollutants.

DR. FISCHER: Although methane is covered by the Kyoto Protocol as well as the scoping plan, the use of a 100-year time scale for measuring its impacts undermines motivation for emissions reductions since its impacts are heavily weighted toward the first few decades after its emission.

In addition to slowing the rate and extent of warming, methane emissions reductions benefit human and ecosystem health. Although methane is non-reactive on time scales of days or weeks, it eventually forms ground level ozone.

Climate policy could further incentivize technologically feasible low-cost mitigation by
considering a 20-year global warming potential to measure methane's climate impacts.

To support implementation of mitigation strategies, ARB is working to verify emissions and identify unknown sources using its mobile monitoring platform.

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DR. FISCHER: Black carbon is more challenging to address, in part because it is not included under the Kyoto Protocol because its effects are location dependent and because it is often co-emitted with other PM2.5 compounds that exert cooling climate effects. However, there are enormous potential co-benefits to strategic reductions of black carbon emissions, since exposures to black carbon particles such as those emitted from diesel engines and soot-producing cook stoves account for substantial health burdens.

To take advantage of technologically feasible low-cost mitigations such as those demonstrated in rural homes that cook with solid fuels in less developed countries, and to further incentivize ARB's diesel risk reduction plan, accounting and verification frameworks need to be developed.

ARB's ongoing research in collaboration with top climate and particle scientists is helping to shed light
DR. FISCHER: Nationally and internationally, climate policy thus far has been inconsistent with regard to control of ozone-depleting substances, which are not covered under the Kyoto Protocol but are included in California's climate policy. Although the Montreal Protocol controls new production of ozone-depleting substances, it does not address end-of-life recovery of those substances that are already in use. In California, alone, the stock of ozone-depleting substances is estimated to be roughly 700 million metric tons carbon dioxide equivalent.

The scoping plan identifies several mitigation strategies for these extremely high global warming potential gases, including an upstream mitigation fee to ensure that climate impacts of these substances are reflected in product costs and to encourage reduced use as well as the development of alternatives.

To facilitate recovery and destruction of ozone-depleting substances, economic incentives need to be implemented.

DR. FISCHER: International aviation and
shipping, each of which accounts for a few percent of
global carbon dioxide emissions, are not accounted for by
current climate policy. Both sectors are projected to
grow substantially by 2050. For both sectors,
in international organizations have assumed authority to
devise climate regulatory control.

Imported goods are another missing piece of
current climate policy. In the United States, emissions
associated with production and transport of imported goods
is estimated at 13 to 30 percent of the total national
carbon emissions.

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DR. FISCHER: Carbon calculators are among the
tools available to individuals, businesses and other
organizations to help produce their climate impacts. In
partnership with the University of California Berkeley,
ARB is working to make available a carbon footprint
calculator that, as part of the cool California resource,
will facilitate voluntary reductions by Californians.
The calculator results shown here depict the
average California household, whose annual emissions of 38
tons carbon dioxide equivalent per year are largely
comprised of indirect emissions such as consumption of
goods, food, and services that people may not immediately
consider when they think about climate change.
Carbon calculators can also be used by businesses. In an effort that helps address the import-export issue, 100 businesses worldwide are working with the UK's carbon trust to develop carbon footprints that include emissions from the supply chain. Among the lessons learned so far is that the process of supply chain footprinting is generally more useful than the actual number produced by labeling protocols, because the process typically reveals opportunities for cost-effective reductions, although not necessarily where expected.

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DR. FISCHER: In conclusion, science presented at this year's Haagen-Smit Symposium underscored the fact that dramatic near-term emissions reductions are needed to prevent the worst climate change impacts. ARB has significant opportunities to continue leading international climate policy through innovative mitigation of methane emissions, black carbon, and high global warming potential gases.

In the coming decades California will also need to work with international partners to reduce emissions from sectors that are not currently controlled by climate policy.

Emerging tools, some of which are under development by ARB and its partners, will help California
reduce the missing pieces of its carbon footprint.

DR. FISCHER: Although ARB is already taking action on several issues addressed by this year's Haagen-Smit Symposium, major issues remain to be addressed. For example, the U.S. EPA's endangerment finding does not extend to ozone-depleting substances or black carbon. So ARB needs to take leadership with regard to urgent action needed for these climate active pollutants.

Although recent scientific and political consensus regarding accounting frameworks for non-Kyoto pollutants will take some time, in the very near term ARB can incentivize methane reductions by considering a 20-year global warming potential which reflects the high impacts that methane incurs in the first few decades after it is emitted.

ARB can begin to address California's responsibility for the carbon footprint of imported consumer goods and manufacturing supply chains through its efforts to promote voluntary emissions reductions.

Technical staff at ARB are continuing to work on innovative policy to set precedence for reducing greenhouse gas emissions through control of ozone-depleting substances.

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DR. FISCHER: Thank you for your attention. We'd be happy to answer any questions.

CHAIRPERSON NICHOLS: Thank you, Dr. Fischer.

Are there any questions or comments from Board members?

Yes, Dr. Sperling.

BOARD MEMBER SPERLING: That was an excellent presentation. Having attended the conference, that is an excellent summary of it.

One question I have is your comments about black carbon. It's one of the really interesting issues because it does carry over, you know, from our efforts at, you know, improving health as well as climate change. And so I was just wondering, is there an analysis being done to see what effect some of these in-use diesel rules that we're pursuing, as well as the new engine diesel rules -- you know, what are -- is there some effort to quantify the climate benefits as well as the health benefits? Because I think that will help us a lot as we move forward if it's a significant number. Acknowledging that there are -- it is challenging the word that you use and to measure these effects.

RESEARCH DIVISION CHIEF CROES: Bart Croes with the Research Division.
Dr. Sperling, yes, we're actually working with NASA and Mike Walsh, who's a former EPA employee that does global emission inventory. So we're coming up with transportation scenarios that include the diesel retrofit program, calculating the climate benefits as well as the health co-benefits from these measures, both in California and if they were implemented nationwide and in Europe.

BOARD MEMBER SPERLING: Well, we've analyzed the health benefits, and they're very substantial.

What about the climate benefits, the greenhouse gas reductions, does that look like it's a significant impact?

RESEARCH DIVISION CHIEF CROES: Yeah, it does look like it's significant. And NASA provides a global climate modeling capability that we need to do that estimate.

So, yes, we are finding pretty significant climate benefits from diesel retrofit programs. On just the California's program alone is on the order of 10 to 20 million metric tons CO2 equivalent. And I give a pretty broad range because of the uncertainty in the climate impacts of black carbon. And then we're also trying to scale that up nationally and globally, and it does look like it's fairly significant.

BOARD MEMBER SPERLING: And will we get any input
on anything we should possibly be doing differently with our diesel -- various diesel rules to enhance those benefits?

RESEARCH DIVISION CHIEF CROES: Well, uncontrolled diesel's about 70 percent black carbon. And the retrofits basically take all the black carbon out. So it really is a very effective strategy to reduce black carbon.

CHAIRPERSON NICHOLS: For the benefit of those who may not be as steeped in all of these things as some of you are, could somebody give a simple definition of what black carbon is.

RESEARCH DIVISION CHIEF CROES: Black carbon is --

(Laughter.)

CHAIRPERSON NICHOLS: Just a question.

RESEARCH DIVISION CHIEF CROES: It's basically the black light-absorbing soot that you -- so it's a visible soot from diesel sources, from coal combustion, from fires, and so forth. So this black soot absorbs the radiation and turns it into heat very effectively, and so it's a very effective warming agent.

CHAIRPERSON NICHOLS: And did I just hear you say that 70 percent of uncontrolled diesel emissions -- or
diesel engines without any control on it, 70 percent of what came out the tailpipe would be black carbon?

RESEARCH DIVISION CHIEF CROES: Seventy percent of the particles that come out of the diesel engine are black carbon.

CHAIRPERSON NICHOLS: Particles.

RESEARCH DIVISION CHIEF CROES: And the traps effectively remove essentially all the black carbon.

CHAIRPERSON NICHOLS: Okay. So what happens when black carbon has its warming effect on glaciers or snow and the polar ice, et cetera, as it drifts around the globe is these particles literally fall on these white substances, the frozen ice or whatever, and causes it to absorb more sun and then warm up?

RESEARCH DIVISION CHIEF CROES: Right. So black carbon in the atmosphere heats up the atmosphere because of this capability to turn the solar energy into heat. And then also, like you said, when the particles fall on snow or ice, they enhance the melting of that snow and ice.

CHAIRPERSON NICHOLS: Okay. Thank you.

I see that some people have discovered the fact that there is seating upstairs in the balcony. If there's anybody who's still looking for seating, because I saw there were a number of people standing in the back, it is
possible to participate by sitting up on the upper level.

Thank you for opening that area up.

CHAIRPERSON NICHOLS: Yes, Dr. Telles.

BOARD MEMBER TELLES: Is this on?

CHAIRPERSON NICHOLS: You have to wave your arms, because I can barely see you over the partition.

BOARD MEMBER TELLES: I had a question of clarification on the imports, the U.S. equivalence of -- up to being 30 percent of CO2 emissions. Is that the production of CO2 emissions in the country of origin or is it the use and disposing of those imports here in the United States?

DR. FISCHER: That's the manufacturing and the country of origin as well as the transportation to the United States.

BOARD MEMBER TELLES: Okay. And you mentioned that California was working with international partners to do something about that. Now, what exactly could California do from a legal point of view in regards to that, because it's an international trade issue?

DR. FISCHER: Carbon Trust, which is an organization in the UK, is working on a voluntary basis with businesses to develop carbon footprints that include the supply chain, and therefore internalize the emissions associated with imported goods.
California's effort to offer a tool for calculating carbon footprints to businesses as well as individual consumers and households similarly produces a result that reflects imports and other consumer goods. So we offer people the information they need to make voluntarily decisions.

CHAIRPERSON NICHOLS: There's already a pretty lively offset market out there, a voluntary market without any mandates behind it, which we are being asked I know as a result of various bills going through the Legislature to participate in in a more active way by actually developing mechanisms for assuring that the offsets are real and deciding how much they should be credited with. We have not taken a position on any of those bills. But it's clear that this is an area that's getting a lot more attention internationally as well.

I wanted to comment on Dr. Sperling's comment earlier about quantifying the climate benefits of diesel control. I had the opportunity to attend a meeting this summer with transportation regulators from around the world through a group called the International Council for Clean Transportation, which is based in the U.S. And the same fellow, Michael Walsh, who was mentioned earlier, has been working with them as well on a number of studies to try to look at transportation as the market for personal
vehicles grows rapidly in China and India and other developing parts of the world - Mexico, Brazil, et cetera - to see sort of how this is going to affect our efforts to control global climate, which up until now have been mostly focused on individual vehicles and so on. And I think one of the most interesting things that I learned as a result of this is that probably this year when the U.N. Framework Convention convenes in Copenhagen is going to be the first time that there's really been much serious looks at that issue. Up until now it's been much more focused on electricity production, coal burning, heating and cooling, so forth. And people are beginning to realize the magnitude of the growth in this area and what it could mean for all of our other efforts.

But I would say that outside of the U.S. and Europe -- western Europe and maybe Japan, people are really not interested in looking at transportation from a climate perspective. They are worrying about effects on health, and they're just really getting started in many areas in setting standards to look at the effects on health of increasing use of combustion engines -- internal combustion engines. But as far as factoring that into some sort of a global climate regime, I think we're quite a long way away from, you know, having any kind of international consensus about doing that, despite your
best efforts, I might say. I wished I had had copies of
your book to hand to all of these people while I was
there. So I think there's a market out there that we need
to get to.

Anyway, were there any public speakers who signed
up for this item?

BOARD CLERK VEJAR: No, we do not.

CHAIRPERSON NICHOLS: We do not.

Okay. Then I think we'll just move on to the
next item on our agenda.

EXECUTIVE OFFICER GOLDSTENE: Just one thing.

I'd like to thank the staff for the work they did on the
symposium this year. They pulled symposium off under very
difficult conditions. And I want to just thank them again
publicly for the effort Bart and staff did.

CHAIRPERSON NICHOLS: It was an excellent
symposium. I attended a fair amount of it myself.

Thank you.

Okay. So we have another brief science update
this morning also. And this one relates to a study that's
going to be getting underway later this year, a major
field study that's going to start actually next year, a
field study that we're collaborating on with the National
Oceanic and Atmospheric Administration. And so I thought
Board members would appreciate hearing about what we're
going to be launching here.

EXECUTIVE OFFICER GOLDSTENE: Thank you, Chairman Nichols.

Today we'd like to make the Board aware of CalNex 2010 and other field studies which will take place in California next year.

ARB's tradition of supporting air pollution research goes back to the beginning, you know from the last four decades.

Next year ARB will benefit from and contribute to a $15 million effort by NOAA focused on air quality and climate science issues. The aircraft and ships that NOAA will deploy are able to make measurements over the entire state. Combined with surface monitoring stations funded by ARB and the South Coast Air Quality Management District, we're going to get an unprecedented amount of data collected. NOAA will then work with us to review the results and produce policy-relevant conclusions we hope in a very timely manner so we can make decisions about how we want to move forward in certain areas.

Dr. Eileen McCauley of the Atmospheric Processes Research Section of the Research Division and Dr. David Parrish from NOAA will make the presentation this morning.

CHAIRPERSON NICHOLS: Thank you.

(Thereupon an overhead presentation was
Presented as follows.)

DR. McCAULEY: Thank you, Mr. Goldstene.

Dr. David Parrish is one of NOAA's leads for CalNex, and he is here to discuss with the Board NOAA's plans for CalNex 2010. Before his presentation, I will provide some background about air quality field studies in California, and CalNex in particular, and their role in the regulatory process. I will also very briefly mention two other major field studies which will take place in California in 2010.

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DR. McCAULEY: California's been the site of dozens of air quality field studies, with over 2,000 papers published on work in California. By improving our understanding of the sources and processes which form pollution in the State, these field studies have played an important role in shaping the Board's decision about controlled strategies. However the complexity of the atmosphere, changes in the composition, and growth in our ability to more accurately model processes in the atmosphere mean that we continue to need evermore detailed, accurate scientific information.

Recognizing the need for a better understanding of many issues which affect air quality and climate, ARB was immediately interested when the National Oceanic and
Atmospheric Administration suggested collaborating on a major field study focused on both air quality and climate science.

CalNex 2010 will focus on basic science questions which have implications for issues of concern to the Board, such as ozone formation under very different conditions in the coastal plain and the inland valleys, and formation of carbonaceous particulate matter and its effects on the radiative budget of the atmosphere.

DR. McCULEY: Air quality and climate are a phenomena of the atmosphere, and it's not surprising that some species or processes traditionally of concern to one discipline have an impact on both. For example, particulate matter or aerosols not only impact human health but can either warm or cool the atmosphere, depending on the composition of the particulate matter. Policymakers would like the most complete understanding of climate air quality interactions as they make decisions that affect both.

CalNex will collect sophisticated measurements on a spatial scale not available to us previously. NOAA's scientists can make measurements over the entire state and fall out over the Pacific with a chemical completeness and temporal resolution that has not been available to us.
previously.

NOAA's contribution of $15 million dollars in
time and effort mean that ARB's research dollars are very
highly leveraged.

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DR. McCAULEY: As the first step in planning
CalNex, ARB and NOAA staff worked together to identify a
number of science questions that are of interest to
policymakers. These questions and the planned work have
been shared with the scientific community in several
public meetings.

Broadly the questions fall into three categories:

1) How to improve our emissions inventories of greenhouse
gases and traditional pollutants and precursors; 2) How
can we improve our understanding of chemical
transformations and climate processes occurring in the
State?

The third category is important to our ability to
model the processes which contribute to poor air quality
in California. Air quality modeling is made much more
difficult by California's complex terrain and meteorology.

Thus, the third focus area for CalNex is improving our
ability to model air flow in and between the State's air
basins. NOAA's aircraft and their plans for a network of
ozonesondes and radar wind profilers will provide
information about air flow above the surface.

From the beginning, ARB has recognized that effective regulations must have a strong scientific foundation if they are to produce the maximum benefit in a cost effective manner.

CalNex will provide data and insights which will be of use as the Board takes action to reduce greenhouse gas emissions as well as people's exposure to harmful pollutants.

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DR. McCAULEY: NOAA scientists who will work on CalNex have extensive experience in making sophisticated measurements from aircraft, ships, and on the ground. With a schedule that typically conducts a major field study every other year, they have studied atmospheric processes in New England, the southeast, Texas, California, over the eastern and western Pacific, the arctic and Mexico City.

In all of these efforts NOAA was interested in science which was policy relevant. Recognizing the need for more quickly making available findings from their studies, they aim for summary reports within a year or 18 months after the studies. This is far faster than the typical time of three to five years or longer that it takes for results from large field studies to become
DR. McCauley: We are planning a large ground-based effort also which will include two so-called Supersites, one in Los Angeles and one in the southern San Joaquin Valley. The L.A. Supersite will focus on organic particulate matter and nighttime chemistry. The South Coast Air Quality Management District is considering funding work by Professors Stutz and Jimenez, and NOAA will support Dr. De Gouw.

The San Joaquin Supersite, which will be located in Arvin, will have a comprehensive suite of chemical measurements which will significantly improve our understanding of the formation of ozone and particulate matter in the San Joaquin Valley. Professors Ronald Cohen and Allen Goldstein are the principal investigators, and four other research groups will join them at this site.

As the Board seeks to decrease Californian's exposure to particulate matter, the issue of sources of particulate sulfate in southern California is one we would like to investigate. By deploying continuous sulfate monitors alongside South Coast's new trace SO2 monitors, we will have a better understanding of both marine and on-land emissions of sulfur and of the chemistry and transport of SO2 and sulfate.
Recognizing the importance of methane as a greenhouse gas, the Research Division is leading a multiyear effort to measure methane throughout the state. These efforts will be coordinated with CalNex monitoring.

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DR. McCAYLEY: In addition to CalNex 2010, next year two other large field studies will take place in California.

A different group at NOAA, the hydrology unit, is working with the California Energy Commission and the Department of Water Resources on CALWATER. This field study is interested in the impacts of particles and changing climate on California's snowpack and water resources. CALWATER will take place early in 2010 during the hopefully rainy season.

Staff from the Pacific Northwest National Laboratories with funding from the Department of Energy will conduct the carbonaceous Aerosol and Radiative Effects Study, or CARES, in the Sacramento metropolitan area and east into the foothills next summer. This study is focused on the formation and changes in the organic fraction of ambient particulate matter.

As part of CARES, two, possibly three, aircraft will be deployed in addition to two ground sites. We are working closely with the CARES participants.
Even my brief introduction makes it clear that 2010 will be a very exciting year for atmospheric scientists in California.

Now, Dr. David Parrish will provide more detail about NOAA's past work and their plans for CalNex.

CHAIRPERSON NICHOLS: Thank you.

Dr. Parrish.

DR. PARRISH: Thank you. Thank you for the invitation to come today. And thank you, Eileen, for the introduction and, Susan, for the introduction. I'll touch on many of the same points that they introduced.

(Thereupon an overhead presentation was Presented as follows.)

DR. PARRISH: I'm David Parrish. I'm from the Chemical Sciences Division of the Earth System Research Lab. We're stationed in Boulder, Colorado.

And what I'll try and do today is make three points: Address NOAA's climate and air quality science approaches; address the specific science issues we'll investigate in 2010; and show -- focus specifically on NOAA's contributions to the study.

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DR. PARRISH: Over the last 15 or so years, we've carried out quite a few research intensives that investigate climate and air quality in various parts of
the country. So this is kind of a synopsis of those.

We've been in New England on three different studies, southeastern U.S. on three studies. We've been to Texas and the Texas air quality studies twice. We've even stayed close to home in Colorado once. And we've been in California to some extent before.

NOAA made substantial contributions to the Central California Ozone Study in 2000, although we didn't bring the mobile platforms.

And we were here in 2002 with the -- at least the P3 aircraft, kind of our centerpiece platform. But that was more of an outward looking study where we were looking at the air masses and the pollution that was coming ashore from the Pacific, and not much on air quality here in California.

So CalNex 2010, it'll be our first effort in California where we have full capabilities of all our platforms and with a major air quality focus that we haven't really had in California before.

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DR. PARRISH: So this is kind of my version of one of the slides that Susan showed earlier. It's based on the IPCC 2007 report. And it breaks the climate forcing agents up into two categories.

The category on the left are purely climate
agents - carbon dioxide, methane, nitrous oxide, and
halocarbons.

The category on the right play two roles: Air
quality and climate agents. Soot is one that Susan
focused on. And my bar is a little smaller than her bar,
which simply reflects some of the scientific uncertainty
that we're hoping to investigate. Ozone is an air quality
concern certainly but also a climate forcing agent. And
those two are warming agents.

There's also particulate matter, or aerosols as
they're labeled here, that have a very strong cooling
component.

And it's the balance between the warming and
cooling that gives us then our total climate change
forcing.

So in 2010, this will be our first steps at
really trying to integrate carefully these two issues,
climate and air quality. And we'll look toward the
benefits of dealing with these specifically together and
thinking about them together.

So they're clearly highly interrelated. We've
got these agents that both are air quality and climate.
The major air pollutants - aerosols, soot, ozone - are all
significant climate change-forcing agents. And these
common agents, as Susan mentioned, are short-lived. So
they have a much shorter lifetime than carbon dioxide.
And so any efforts we can make to reducing their impact
will have an essentially immediate impact, years instead
of many decades to be felt.
And, finally, we can investigate these very
effectively together because they have the same common
sources - transportation, industry, agriculture, and
forests.

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DR. PARRISH: So we are looking at CalNex as a
first step for the nation toward providing information for
integrated regional decision making on air quality and
climate.
So why do we come to California? Well, I don't
have to tell you that California leads on both these
issues, for decades on air quality, and certainly in the
last, oh, part of a decade on climate change. And it has
a very diverse emission base. The agricultural emissions,
the industrial emissions, the transportation emissions,
forest emissions are all represented here in California.
Hopefully we'll provide the science information
that's needed by California to integrate their climate --
your climate and air quality management. And, boy,
there's a lot of efforts that are already underway that
we've heard about already today. And hopefully we can
leverage that experience into benefit the nation.

So, in summary, the payoffs from CalNex will be science-based options for making decisions for air quality and climate together and lead to win-win situations. And the information can be extended to other regions of the nation.

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DR. PARRISH: So I'll try and go through our science issues quickly here. We have it organized a little differently than Eileen mentioned.

This, by the way, is the -- on the right is the cover of our science plan. It's available on the web at that URL that's shown at the bottom. It's a large document, something over a hundred pages at this point, that tries to detail our plans. So it's kind of a planning document for us. We can look through it and update it as we need to.

So, as Eileen mentioned, one major effort will be emissions quantification. And we'll focus on greenhouse gases, we'll focus ozone precursors, aerosol precursors, aerosol emissions themselves. And the result will be improved emission inventories, with particular focus on greenhouse gases, soot or black carbon, and on sulfur emissions.

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DR. PARRISH: The next slide shows one example of that. And I'm not sure how well you can see that. The upper map shows the point sources of sulfur from the inventory in the L.A. basin. And the bottom panel shows a flight track of the NOAA P3, the aircraft that Eileen showed, that's basically an airborne platform for making rapid measurements of all the species of interest. And we did do one flight in 2002 over the L.A. basin. And that flight track is traced out and color coded according to the SO2 concentration.

So we can fly downwind from each of these point sources and measure the emissions that are coming out from each of the point sources. And we can characterize the total SO2 concentration throughout the L.A. basin. And we can repeat that for many, many species.

The research vessel, it will be well suited for detailed sampling of ship emissions either in the ports of Long Beach, Los Angeles, and perhaps the Bay Area, depending on where the ship sets out from. And the P3 can fly throughout the state.

And we'll be in a place now we can look at changes in emissions. We were here, at least limited, in 2002. The CARB funded the NASA aircraft to make measurements in 2008. And then we'll be back in 2010. So we can begin to get a time tracking of the emissions.
DR. PARRISH: Eileen mentioned chemical transformation. We'll be looking at the formation processes and the removal processes for ozone and aerosols. We'll be looking at daytime and nighttime processes. We're beginning to learn that nighttime processes have significant effects on both aerosols and ozone.

And we'll look at gas phase species and heterogeneous species, reactions taking place on the surfaces of aerosols.

We'll look at transport and mixing. And so intercontinental, inter and intrastate transport, transport from the lower atmosphere, the boundary layer where the emissions are, to the pre-troposphere. And ideally we'll come up with improved understanding of how we are affected and how we affect our neighbors by our own emissions.

DR. PARRISH: And the next slide shows one example of that.

This is the NOAA Twin Otter airborne LIDAR data from the study in 2006 in Houston. So the big metropolitan area kind of in the center there is the...
Houston metro area. The winds were from the southwest during this flight. And the LIDAR aircraft then flew that colored track and can map out the ozone plume moving downwind.

And if you take that flight track and stretch it out into a curtain, then the curtain of ozone and the curtain of aerosols are shown there on the right.

So we're particularly interested in using measurements like this to define pollution pathways for export of L.A. basin and Central Valley pollution and transport between these two valleys.

And coordinating the Twin Otter aircraft with the P3 aircraft and the NASA King Air that will be involved in the CARES study that Eileen mentioned will be quite useful in 2010.

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DR. PARRISH: The next slide shows two other things - aerosol properties and radiative effects. So one of the big bars on that climate-forcing diagram was aerosol climate forcing, both direct and the cloud aerosol interactions that leads to climate forcing. And we'll look at that. The ship is well suited for sailing under the stratus deck off the coast of California and looking at the effect of pollution that moves into those clouds.

And particularly we'll be interested in better
defining the role of black carbon in climate.

And, finally, model development. NOAA is tasked with providing ozone forecasts for the nation. And there will be several, maybe something like five, forecast models that will be running during this period. And we’ll verify -- check those forecasts against what we measure.

Next slide.

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DR. PARRISH: These are the platforms. So we do have the NOAA P3 aircraft, the Ron Brown. And both of those are laboratories for making continuous in situ measurements by sampling air that they take in. The Ron Brown also makes remote measurements with instruments that look up. The NOAA ozone and aerosol LIDAR aircraft.

Those are our three NOAA platforms.

We're also funding the surpass Twin Otter. So that's John Seinfeld of CalTech instruments that aircraft. And he'll be studying secondary organic aerosols in the Los Angeles basin.

We'll make contributions to an ozonesonde network and a radar wind profiler network. And we'll also make contributions to the Los Angeles Supersite that Eileen mentioned.

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DR. PARRISH: And the next slide basically shows,
with all of us working together, we're coming out with a pretty impressive research effort for 2010. There's the long-term surface observations that are done routinely. And each of those little dots is an independent station. And, boy, there's a lot of them in California that gives a tremendous amount of information.

The next slide adds in the instrumented tall towers. Lawrence Berkeley Lab and NOAA work together on two tall tours in Walnut Grove and Sutro in San Francisco.

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DR. PARRISH: The next slide shows the major ground sites: The San Joaquin Valley and L.A. that CARB and the air districts and NOAA are funding; and then the two sites that the Department of Energy and the CARES program up near Sacramento are funding.

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DR. PARRISH: The next slide shows ozonesonde releases. It's becoming apparent that ozone transported ashore really does have significant effects on the air quality in California. And we'll try and supply seven ozone profile stations in California where there can be daily ozonesonde launches. So we get a climatology of the vertical profiles of ozone throughout the length of the state.
DR. PARRISH: The next slide shows the radar wind profilers that will be very useful for mapping out the transport pathways.

DR. PARRISH: The next slide adds in the mobile platforms.

So we really can cover the whole state. We've got something like six aircraft signed up now: The ones I've mentioned, the two Twin Otters, the P3. The NASA King Air aircraft is associated with the CARES program and the DOG-1 aircraft with the CARES program. And the U.S. Forest Service is also instrumenting a Cessna aircraft that will investigate primarily wild fire emissions.

And then we work closely with people that integrate in the satellite observations.

DR. PARRISH: So the next slide I think kind of summarizes what I've tried to get across, is these three points.

DR. PARRISH: And the final slide shows that from the -- we're interested in kind of leveraging our experience in 2010. And we'll return hopefully with the -- not as major a study, but we'll return in 2011 with...
the P3 aircraft to focus more clearly on these air quality
climate interactions and more clearly characterize the
emissions particularly on greenhouse gases and aerosols,
and that emerging importance of black carbon or soot will
be a major effort.

So thank you.

CHAIRPERSON NICHOLS: Thank you very much.

Board members have any questions at this point
about the studies?

Yes.

BOARD MEMBER SPERLING: One part of your talk got
my attention.

You know, California's a very unique place in
many ways, we've all discovered in our own ways. One of
the ways is we have all of these regional climates, you
know, very -- micro-climates, and there's a lot of
sensitivity to it, you know, in terms of it affects our
water supply, it affects our wine industry, skiing, many
things important to many of us. Some more than others.
But, you know, you talk about regional climate models.

So one of the huge issues for California as it
moves forward, you know, ARB to some extent, but the whole
state, is how to deal with the climate change and these
differentiated effects. And so there's starting to be
attention to adaptation policies and, you know, it's
infrastructure issues as well, you know where to build the airports and near the water and so on.

Are you going -- how big a part of this or how sophisticated or how fine -- how much fine resolution will there be in this work that can be useful to us in that way in terms of talking about adaptation?

DR. PARRISH: I should emphasize the P3 aircraft gives very fine resolution information. So it makes measurements of many, many species on a one-second time scale. So that translates into a hundred meter resolution. And so during a six- to eight-hour flight, there's a lot of seconds in that time period. And so we have a measurement, you know, nearly every second of all these species throughout that time period. So we'll have a tremendous amount of very fine scale information.

The trick is to effectively interpret that. And so that's the advantage of coming to a location with the local expertise that's here, both at CARB, the air districts, the universities, and leveraging this data set with the folks that can -- that we can work with to get the biggest science payback from the efforts we put in.

BOARD MEMBER SPERLING: So is this part of the program to integrate in with -- you know, NOAA has these big climate models, and I know there's efforts at developing these more regional -- you know, looking at
regional effects and regional changes. Is that part of
this program to develop, you know, these micro-climate,
regional climate models -- sub-models?

DR. PARRISH: We don't -- well, there's -- in
terms of a regional climate model I'm not aware of any
research in NOAA that's directly addressing the
micro-climates of California. But we would certainly make
this data available to anyone that's interested in
evaluating it and using it.

We are working with the GFDL that do run the
global climate and the global climate models and the more
national climate models. And they're interested in doing
a finer scale model over the California region. But
whether we can really call that the microscale climates or
not, I'm not sure.

CHAIRPERSON NICHOLS: Dr. Balmes.

BOARD MEMBER BALMES: I think --

CHAIRPERSON NICHOLS: Oh, sorry.

Bart.

RESEARCH DIVISION CHIEF CROES: Dr. Sperling,
just a follow-up. There are efforts to do regional
climate modeling funded by the California Energy
Commission with University of California at San Diego.
And so they're a pretty big participant in this CALWATER
activity, for instance, and looking at some of these
issues about precipitation and snowfall in local -- you know, in the mountains as well as local areas around the state. So there are modeling efforts that address your issue but they're just not part of NOAA. But they are integrated with this and other studies that are going on in 2010.

BOARD MEMBER BALMES: So my question is actually for Eileen.

In your slide presentation when you talked about California's contributions, I saw that there was a San Joaquin Valley Supersite.

DR. McCAULEY: Yes.

BOARD MEMBER BALMES: So where is that located?

DR. McCAULEY: In Arvin.

BOARD MEMBER BALMES: In Arvin.

DR. McCAULEY: Which is near Bakersfield.

BOARD MEMBER BALMES: Okay. Thank you.

CHAIRPERSON NICHOLS: Dr. Telles.

BOARD MEMBER TELLES: Will you be measuring methane? Especially in the San Joaquin Valley, is there any way to determine -- one of the unknown things is how much methane a cow actually produces in the field. And is there any way you can extrapolate how much methane is coming out of the dairies in the San Joaquin Valley?

DR. PARRISH: The short answer is yes. We'll
have one-second resolution methane measurements made from the aircraft. And it flies low enough that we'll be able to clearly discern, not individual cows, but at least individual dairies and feedlots. And that will be a major focus. The analysis from that 2002 flight, the -- if you just look at the whole state budget for greenhouse gases, the ratio of methane to CO2 I think was like 6 percent in units of global warming potential.

And when we look at just the L.A. basin, we were getting a ratio that was close to that 6 percent. But we don't think L.A. really represents the whole State of California in terms of representative methane emissions. So we'll try and map out much better, you know, contours of methane emissions across California.

DR. McCAULEY: In addition to the aircraft measurements, there will be ground-based measurements. We are deploying a number of -- setting up a number of sites in the San Joaquin Valley which will look at methane, carbon monoxide, and carbon dioxide. And there are two mobile platforms. Basically electric vehicles have been equipped with instruments, and they can drive around. If we see something interesting in some of the other monitoring, we can use the mobile instruments to look at it in more detail.

CHAIRPERSON NICHOLS: So it sounds like we're
going to be acquiring an awful lot of information. And we're not quite sure at this point even how we're going to be able to use all of it. But clearly it's going to add to the resources that are available to us for a number of different purposes, and it's very useful for us to know that this is going to be coming our way and to be thinking about how we might be asking more questions of it that are relevant from a policy perspective.

Lynn.

DEPUTY EXECUTIVE OFFICER TERRY: I just wanted to mention how critical this work will be for the new SIPs for the ozone standard planning process that will take place shortly after this data is collected. It's really -- the last field study we did in the San Joaquin Valley was in the year 2000. So this is very critical. And the Supersite in the southern valley was selected very purposefully to collect that data.

CHAIRPERSON NICHOLS: I suspected that, yeah. Arvin is a name that has a lot of resonance here at the ARB.

All right. Without further ado then, thank you very much. We appreciate your coming and getting us this update, and it's exciting. We'll look forward to getting some updates when you have more to report.

The next item on our agenda this morning is a
public hearing on proposed amendments to the regulation for in-use off-road diesel fueled fleets.

The regulation, which was approved by the Board on July 26 of 2007 — an important date in my personal history since it was my first Board meeting when I came back as Chairman — will significantly reduce the public's exposure to diesel particulate matter and oxides of nitrogen from the nearly 180,000 off-road diesel vehicles operating in California.

When the regulation is fully implemented, we expect it to prevent some 4,000 premature deaths and to provide the State an economic benefit of $18 to $26 billion in avoided health costs and costs of premature deaths.

We last heard from our staff regarding this regulation in January when the staff gave us a technology and implementation update. At that time, we extended the deadline for fleets to obtain the double credit that we had written into the rule for those who were able to do early retrofits.

Then as part of the February 2009 budget agreement, the Legislature enacted Assembly Bill 82X, which is why the staff is back before us today. This bill was intended to provide economic relief and to preserve jobs for fleets that are heavily impacted by the current recession, and particularly for those that are in the
construction industry.
So we need to both acknowledge the fact that this legislation passed and our role in helping to implement it, and then to hear from the public about the proposal that the staff has made for how to actually implement that legislation.

Mr. Goldstene, would you please introduce this item.

EXECUTIVE OFFICER GOLDSTENE: Thank your Chairman Nichols.

In Assembly Bill 8 2X, the Legislature directed ARB to amend the regulation to provide additional credit for reduced activity and vehicle retirement, and to revise the performance requirement schedule to allow fleets more flexibility in 2010 and 2011.

The changes directed by AB 8 2X will allow fleets to take fewer actions to reduce emissions and therefore staff expects they will result in a loss in emission benefits. Hence, staff is also proposing a number of measures to spur voluntarily early retrofits and repowers of affected vehicles, with the expectation that these measures will make up some of the emission benefits lost due to AB 8 2X.

Additionally, over the past six months staff has been working closely with affected fleets to implement the
regulation. Through this effort, staff has identified several areas in the regulation where minor changes are needed to provide additional flexibility and clarity. As such, staff is proposing several additional minor clarifications and modifications.

I'll now ask Elizabeth White from our Heavy-Duty Diesel In-Use Strategies Branch to give the staff presentation. Beth.

(Thereupon an overhead presentation was Presented as follows.)

MS. WHITE: Thank you.

Good morning, Madam Chairman and members of the Board.

My presentation today details the proposed amendments to the regulation for the in-use off-road diesel-fueled fleets. The proposed amendments will implement elements of February's budget bill, codified in Assembly Bill 8 2X, that affected this program and also include new incentives to spur early actions by fleets to reduce emissions, and several additional minor modifications and clarifications to the regulation.

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MS. WHITE: Here's an outline of today's
First, I will describe Assembly Bill 8 2X, which I will refer to as the legislation, and what it directed staff to do.

Then, I will discuss the incentive provisions staff is proposing to offset the potential loss and emission benefits due to the legislation.

Then, I will summarize proposed minor modifications and clarifications that staff is proposing to rectify some issues that have come up as we've been implementing the regulation.

Next, I will describe the overall expected emissions impacts of the proposed amendments.

Finally, I will conclude with staff's recommendation.

MS. WHITE: The legislation directed ARB to make several changes to the regulation that will allow some fleets to delay compliance for a number of years. Before describing the legislation, I will first review the existing requirements of the regulation.

MS. WHITE: The Board approved the regulation in July 2007, and its idling limits and disclosure provisions are now effective. This spring the ban on adding Tier 0
vehicles, the oldest, dirtiest vehicles, took effect. The reporting deadlines for large and medium fleets were in April and June, and the deadline for small fleets is August 1 of this year.

The requirements for reducing emissions begin next spring for large fleets, those with over 5,000 horsepower. Beginning March 1, 2010, and each year thereafter, the regulation currently requires large fleets to either meet the fleet average or the BACT retrofit and turnover requirements. Fleets can meet the NOx BACT requirements by retiring vehicles, repowering vehicles with cleaner engines, designating vehicles as permanent low use, or installing NOx retrofits. Fleets can currently meet the PM BACT requirements by installing retrofits or shrinking their fleets by retiring Tier 0 vehicles. Fleets currently receive double credit for PM retrofits if they are installed before January 1, 2010. The regulation currently provides no credit or recognition for reduced activity.

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MS. WHITE: The intent of the legislation is to provide economically relief and to preserve jobs in the construction industry, which is currently facing difficult economic times due to the current global recession. The legislation directs ARB to amend the regulation in the
following ways:

First, to allow fleets to delay some of their 2011 and 2012 turnover and retrofit requirements until 2013.

Second, to give PM and NOx BACT credit to fleets that in the past two to three years have shrunk or reduced their activity, that is, how much they operate their vehicles.

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MS. WHITE: When crafting staff's proposal, staff strove toward the following goals:

To develop a proposal consistent with the intent language of the legislation; not penalize fleets by increasing the stringency of the regulation; and Reduce potential emissions disbenefits due to the changes.

In developing the proposed amendments, staff held two workshops, in Sacramento and Diamond Bar, as well as received input from individual stakeholders and through the Off-Road Implementation Advisory Group.

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MS. WHITE: First, let me provide more detail regarding how staff proposes to implement the changes to the BACT schedule.

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MS. WHITE: The legislation directed ARB to allow fleets complying via BACT provisions to take fewer actions for the 2011 and 2012 compliance dates, and to require fleets to make up for the difference by the 2013 compliance date.

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MS. WHITE: The current NOx BACT requirements - shown in blue - require fleets to turn over 8 percent of their horsepower each year.

To implement the legislation, staff is proposing to change the turnover requirements to those shown in red. In 2011 and 2012 fleets would only need to turn over 4.8 percent of their horsepower. But in 2013, fleets that take advantage of the reduced 2011 and 2012 requirements would need to turn over 14.4 percent of their horsepower. The regulation's existing in carryover provisions will remain in place, such that a fleet that does more than is required one year can bank the extra credit.

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MS. WHITE: These bar charts show what the schedule changes mean for the regulation's retrofit requirements.

The current PM BACT requirements - shown in blue - consist of installing retrofits on 20 percent of a fleet's horsepower each year. To implement the
legislation, staff is proposing to change the retrofit
requirements as shown in red. Under the proposed revised
BACT schedule, fleets failing to meet the PM fleet
averages in 2011 and 2012 would only be required to
retrofit 12 of their horsepower -- 12 percent of their
horsepower per year.

However, in 2013, fleets that take advantage of
the reduced requirements would have to retrofit 36 percent
of their horsepower to make up the difference.

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MS. WHITE: The proposed amendments contain
special provisions for fleets that meet the fleet averages
during 2011 and/or 2012, to ensure that such fleets are
not penalized by being required to take more actions than
the current regulation would require.

For example, large fleets that meet the fleet
average targets in 2012, but not in 2013, maintain the
existing 8 percent turnover and 20 percent retrofit
requirements in 2013.

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MS. WHITE: In addition to the BACT schedule
changes I just discussed, the legislation directs ARB to
provide fleets new credits for vehicle retirement and
reduced activity. I will describe these further in the
next few slides.
MS. WHITE: First, the legislation provides new PM and NOx credit for vehicle retirements, that is, selling or scrapping a vehicle such that overall fleet horsepower goes down.

Staff proposes to allow fleets to claim PM and NOx credit for any vehicle retirements that reduce total fleet horsepower between March 1, 2006, and March 1, 2010. The new credit would not expire. Hence, large fleets that have shrunk by more than 20 percent since 2006 would be able to avoid all retrofit and turnover requirements for 2010, the first compliance year.

Retirement of any vehicle, regardless of emission level tier, the receive credit.

MS. WHITE: Second, the legislation provides new credit for reduced activity, that is, for fleets that are using their vehicles less than in 2007. Staff proposes to allow fleets to claim credit for reduced activity between July 1, 2007, and March 1, 2010. Per the legislation, the reduce activity credit could be used by fleets to satisfy their NOx and PM BACT requirements in the years 2010 and 2011 only.

MS. WHITE: The legislation specified credit for
active reductions be reflected from July 1, 2007, to March 1, 2010. Because activity for the largest industry affected by the regulation, construction, cycles with the season, it is not appropriate to look at just one day of activity. Instead staff believes activity is more appropriately measured over a 12-month period.

Staff proposes to use as a baseline the activity during the 12 months centered on July 1, 2007, the date specified in the legislation. This would be compared to the activity during the 12-month period ending February 28th, 2010, to allow fleets to determine credit prior to the initial compliance date for large fleets on March 1, 2010. The latter period could not be centered on March 1, 2010, because fleets need to know on that date the credit they will receive.

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MS. WHITE: Several fleets and construction industry representatives requested that the initial period be determined by the 12-month period ending on July 1, 2007. Activity was higher then, which would overestimate the reduction in activity and result in more credit.

Staff considered this method, but does not agree that the 12 months ending on July 1, 2007, capture the average annual activity as of that date. And staff believes this method would not be consistent with the language in the
legislation. Staff balanced the need to provide relief as
directed in the legislation with the need to protect air
quality.

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MS. WHITE: To receive the credit, fleets will
need to submit some records to demonstrate that the
reduction in activity occurred. After receiving feedback
during the two workshops held to discuss the legislation
and from industry representatives, staff concluded that
although some fleets have complete records, such as
vehicle hour meter or operator logs, many other fleets who
have experienced a reduction in activity would have more
limited records. For example, they might lack hour logs,
but have records of revenue or employment suggesting a
drop in activity but not corresponding directly to
operating hours or emissions.

Staff crafted its proposal such that it allows
fleets with such incomplete records to get some credit, up
to 20 percent. To receive credit greater than 20 percent,
a fleet would be required to submit hour-meter or operator
logs for each vehicle. Staff balanced the assurance of
credit with the flexibility of allowed records.

Staff's proposal ensures that credit is not
unfairly awarded to fleets that have not actually reduced
activity, but at the same time allows fleets which cannot
substantiate specific vehicle activity reductions to receive some credit.

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MS. WHITE: Based on comments received at the workshops, some fleets have both retired vehicles and reduced the operating hours of their remaining vehicles. Under the proposal, fleets that have retired vehicles and also have reduced activity from the remaining vehicles in the fleet could claim credit for both. However, to prevent double counting of the same action, a fleet could not receive credit both for retiring and reducing activity for the same vehicle.

For fleets that submit usage records for each remaining vehicle, staff proposes to allow retirement credit for vehicles retired, and then also reduced activity credit for activity reductions from the remaining vehicles.

For fleets without vehicle-specific records, any retirement credit for these fleets must be subtracted from reduced activity credit to prevent double counting.

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MS. WHITE: The legislation will delay the requirements of the regulation for many fleets, especially those heavily impacted by the current recession. Hence, there will be a slower retirement of high emitting
vehicles fewer repowers of vehicles with cleaner engines, and fewer installations of exhaust retrofits. This will result in fleets having older and higher emitting vehicles and a loss in emission benefits compared to if the legislation had not been adopted.

The next several slides discuss the impact of the legislation on emissions.

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MS. WHITE: This slide shows the loss in emission benefits expected from the first part of the legislation, the proposed changes to the BACT schedule.

The blue line in the upper portion of the graph represents the NOx benefits before the proposed BACT schedule changes. The red line shows NOx benefits after the changes. The green line in the lower portion of the graph represents the PM benefits before the proposed BACT schedule changes. And the purple lines show PM benefits after the changes.

As you can see, the proposed BACT schedule changes result in a loss in emission benefits in 2011 and 2012 of about 20 percent. But as long as fleets fully comply with the 2013 requirements, there is no benefit loss in 2013 and beyond.

However, as illustrated by the two shaded areas, because fewer benefits will be achieved in 2011 and 2012,
there will be a commensurate loss in the health benefits
of the regulation, with this loss in health benefits not
being made up in future years.

MS. WHITE: Staff expects the second part of the
legislation, the new retirement and reduced activity
credit, will also result in a loss of emission benefits
because use of credits will allow fleets to take fewer
actions to clean up their vehicles. However, staff
recognizes that the recession has also impacted the
emissions from many affected fleets. Many fleets have
retired vehicles and reduce their vehicle activity and
thereby reduce their emissions below current estimates.
Until staff receives more data from fleets on the
level of activity reduction and fleet size, the extent of
changes in turnover practices, the type and quality of
records that fleets have maintained, and the timing and
extent of economic recovery, the overall effect on
emissions versus what was estimated when the regulation
was adopted cannot be accurately quantified at this time.

MS. WHITE: In January, the Board requested that
staff return this fall with an update on where emissions
are versus where we estimated they would be when the
regulation was adopted. Due to the legislation, staff
will receive data on large fleet retirement and activity reductions next spring. Because the proposed amendments provide fleets hardest hit by the recession a delay in complying with the regulation, there's now additional time to complete staff's emissions evaluation.

As such, staff will be able to analyze the two competing effects of the recession and the proposed amendments and develop estimates regarding where emissions are. We therefore propose that the Board allow us to postpone our update until the middle of 2010.

MS. WHITE: To mitigate the potential loss in emission benefits from the legislation, staff is proposing four amendments to spur early actions by fleets to reduce emissions. These amendments are intended to encourage fleets to install retrofits and repower vehicles with cleaner engines earlier than they otherwise would.

MS. WHITE: Amendments to provide incentives for early retrofits include:

Allowing fleets to claim double credit for retrofits that reduce NOx that are installed by March 1, 2011.

Also providing an additional 20 years for medium and small fleets to claim double credit for PM retrofits.
And, lastly, allowing fleets to claim an exemption for up to 15 percent of their total horsepower from future turnover if they install a retrofit prior to March 1, 2011. To prevent long-term NOx emission disbenefits, it is necessary to limit this new exemption to 15 percent of a fleet's horsepower.

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MS. WHITE: Staff also proposes to add a provision that allow fleets to accumulate NOx turnover credit for early repowers that are installed.

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MS. WHITE: Staff expects the proposed incentive provisions will offset some of the emission impact of the legislation. However, the overall benefit of these proposed amendments will depend entirely on how successful they are in spurring fleets to install additional retrofits and repowers.

The table on this slide provides an estimate of the emission benefits from the proposed incentives if they spur 800 additional retrofits and 500 additional repowers with cleaner engines.

Even with this level of early action, it still would only partially offset the loss in emission benefits expected from the 2011 and 2012 BACT schedule changes.
MS. WHITE: Since January 2009, as staff has been implementing the regulation and receiving feedback from affected fleets and other stakeholders, staff has determined that several other minor provisions of the regulation should be clarified or modified.

These clarifications and modifications are shown on this slide. These changes concern installer delays, how community college training programs are treated, clarification of the retrofit safety exemption, public agency fire prevention activities, and reporting of vehicle sales to ARB.

Staff does not expect any of these clarifications and modifications will have a quantifiable impact on emissions.

MS. WHITE: Now that I've described the proposed amendments and individual emission impacts of each change, I will now summarize the overall effect on emissions from the legislation and incentive provisions.

MS. WHITE: In summary, the first part of the legislation, the proposed BACT schedule changes, will cause a loss in health benefits in the early years of
compliance. We expect the second part of the legislation, the new proposed reduced activity and retirement credit provisions, to result a loss in emission benefits. But we cannot accurately quantify this loss at this time, because it depends on several variables for which the data is currently unavailable.

The emission benefits of the proposed incentive provisions will depend on their appeal to fleets. Staff expects these new provisions will only partially offset the loss and emission benefits expected from the legislation.

Overall, a net loss in emission benefits is expected from staff's proposal.

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MS. WHITE: In conclusion, staff recommends that the Board approve the proposed amendments to the regulation. Additionally, staff proposes to return to the Board mid-next year to report on the impacts of the economy and the proposed amendments.

This concludes my presentation. Thank you.

CHAIRPERSON NICHOLS: Thank you.

We have opportunity for Board members to ask any questions if they want to before we hear from the public.

Yes, Mr. Roberts.

BOARD MEMBER ROBERTS: I get concerned when I
hear about losses and things like this, because the language sometimes is different.

What role does the economy take in making those statements? What are the assumptions made? And if you go back to your chart -- hang on -- the one that shows the two curves with the yellow coloring. And I'm having trouble finding it here right now.

Slide 20.

MS. WHITE: Slide 20?

BOARD MEMBER ROBERTS: Yeah. And let me further -- I mean if the economy is such, it's a little bit different. But if it was such that we stopped every single piece of equipment, would we still have a loss of emission benefits by -- I'm trying to understand the language that you're using, because it seems a bit foreign to me.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Well, there's a couple things that are going on. This particular slide -- Oh, I'm sorry.

This is Erik White with the Mobile Source Control Division.

On this particular slide what you're seeing is the reduced amount of actions that fleets would have to take in 2011 or 2012 by essentially establishing a triennial compliance period. So they'll do a little bit
in 2011, a little bit in 2012, and then they'll make up
the difference in 2013. So they get to the same point.

BOARD MEMBER ROBERTS: I understand that.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Okay.

BOARD MEMBER ROBERTS: Help me to understand
where that blue line -- the assumptions that are made in
developing the blue line.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Well, the blue line are the emission estimates
that we developed in conjunction with developing the
regulation. Those are based on a 2005 emission estimate
and baseline and grown into future years. So the blue
line is the line that we are relooking at in regards to
what is the effect of the economy in terms of vehicle
retirements, yes.

BOARD MEMBER ROBERTS: That's the point I'm
getting at. I mean if the actual blue line in reality is
lower than that red line, then there's not a loss then, is
there?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Well, there still will be, because without these
changes, even with the reduction, fleets would still have
to take actions in 2011 and 2012. They would still have
to turn over a set amount of their horsepower or meet the
fleet average.

So what we've done is -- the blue line would come
down and the red line would also come down. But you would
still -- they would still be taking actions instead of
having credits, which will satisfy that obligation.

BOARD MEMBER ROBERTS: Okay. So what you're
saying, there'd be a lesser tonnage as compared to having
the rule versus not having the rule so long as there's
even one piece of equipment that's still running?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Yes.

BOARD MEMBER ROBERTS: And there's some
measurable impact. But this is based on a -- at least the
numbers you're showing us in what we're losing here may
not -- in terms of total tons and the effect it may --
that's a theoretical number based on a theoretical
economy?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Correct. And one reason why we're not citing
specific numbers is we are continuing to look at that.
We're working with the Associated General Contractors as
to try to get a handle on what is the impact of the
economy on emissions. And then with the data that we
would come in as regards to these proposed amendments, we
would have a much clearer picture of how fleets are
responding to the economy in terms of vehicle retirements and activity so that we can start to put some -- pin some numbers to those.

BOARD MEMBER ROBERTS: Okay. But in terms of us looking at the amount of yellow and trying to, you know, at one time in calculus I probably could have figured out the area of that and given you a total tonnage.

(Laughter.)

BOARD MEMBER ROBERTS: But that really is based on some assumptions that you're reconsidering now in the light of the way the world is actually spinning.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Correct.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: I think what we can say is that the absolute value of the tons or the health impact that's that shaded area will change by the amount of activity decrease that there is. So that it would -- if it was cut in half, then you'd probably have half the loss of benefit or something along those lines. But it will not go to zero unless there was zero activity. So it's more like a percent -- the percentage is constant, but the absolute value won't change depending on the assumption or the actual activity that's going on.

But on this provision, there is always a loss of benefit, because -- for these two years, because you're
just -- whatever actions are required, you're deferring a
part of them until the third year.

CHAIRPERSON NICHOLS: Right. But again this is
something that the decision has been made that this needs
to be done and, you know, we're implementing.

BOARD MEMBER ROBERTS: Yeah, I'm not questioning
that. I'm really trying to understand the projected
impacts here. And I think that they're probably a lot
less than we thought at one time.

CHAIRPERSON NICHOLS: I hope so, but I also fear
so, because obviously we don't want to bet against
recovery if we can possibly help it. We need to monitor
the situation, but we don't want to base our plans on, in
effect, hoping that there will be less economic activity.

In fact, the opposite. We want thee to be more.

All right. Dr. Telles, yes.

You do need a flag to wave here.

BOARD MEMBER TELLES: I know. I'm sorry.

I have a question kind of on the same line.

What is the total NOx inventory for this segment
right now?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Yeah, we'll pull that --

BOARD MEMBER TELLES: Well, on page 37 you say
387 tons of NOx per day. I mean if that's the inventory
and if -- and the reason why I'm asking this is I would like to see one more line on this, kind of like what Supervisor Roberts is getting to, as what's actually happening out there. If there's a 30 percent reduction on the activity of this industry, that takes that inventory down to about a hundred tons of NOx. And that would be a line that's below -- I mean it's really significant.

And to say that there's no health benefits in the first few years, I mean there's health benefits going on right now because of the lack of activity in this industry. And that the emissions reductions are much huger than what's actually being displayed on these graphs -- emission reductions from inactivity of the industry.

MOBILE SOURCE CONTROL DIVISION CHIEF CROSS:

Yeah. This is Bob Cross.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Yes.

But I think what happens is that the line will go down; meaning that if you pick 35 tons off there of benefit, it will --

BOARD MEMBER TELLES: A hundred tons, a hundred tons. Thirty percent of --

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: No.

There will still be an incremental effect. If there's only a hundred tons -- if it was 30 percent reduction,
then, say, it would be 200 tons. But there would -- it would still be that much emissions. Certain activities would be going on under the current regulation; and fewer activities in '11 and '12 would be going on under the revised program. And so there's always going to be an incremental loss. It's just the absolute value. The width of that shaded area will shrink as the activity goes down.

But it can't go to zero. It can't -- the blue line doesn't go below the red line.

BOARD MEMBER BERG: But isn't the incremental loss due to the fact that the equipment that is not running right now because of the economy, when the economy does pick up, it will come back in the fleet as it was before and not with a retrofit or with the engine -- with the NOx improvement? So isn't that really where the incremental loss is?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, in this one piece, the incremental loss just comes from delayed actions that would have been required under the rule where every year you'd have to do a certain amount of activity. And under this rule it allows you to reduce your house payment and make a balloon payment at the end of three years. That's basically what it does.

So you catch up in the end. So in 2013, air
looks the same regardless of what activity is, whether this bill had passed or not. But in the two previous years the air will be somewhat dirtier. And we can't tell you -- till we have a better understanding of the activity, we can't tell you how much is lost, but it will be a loss. And it may be the width of that line or it may be half the width of that shaded area, depending on the loss of activity.

And then on the other provisions we have less ability to quantify at the moment. But on this one you can -- you know, it's clear that there will be a loss.

That's all we're trying to say.

CHAIRPERSON NICHOLS: All right. I'd like to turn to the public testimony since we have 15 witnesses who have signed up to speak to us. And I'm sure they'll have comments on this issue that we've just been discussing as well.

So I don't know if you've made the witness list available. Is it posted anywhere so people can --

BOARD CLERK VEJAR: It is out front.

CHAIRPERSON NICHOLS: Okay. So you can keep track of where you are in the queue then if you're signed up. And we would really appreciate it if people would be ready to come forward when their name is called.

So I will call the first three witnesses: Tim
1 Pohle, followed by Joseph Kubsh, and Henry Hogo.
2 Good morning.
3 MR. POHLE: Hi there. I'm Tim Pohle from the Air
4 Transport Association. We represent the major carriers in
5 the country.
6 And we have a long history of working with our --
7 I just want to emphasize from the start that we've always
8 supported the emissions targets. We're just seeking the
9 right path to getting there. We still have some
10 fundamental concerns about this rule. But we generally
11 support the changes that are considered -- under
12 consideration today, particularly with respect to FAA's
13 role and making sure that FAA is in the mix in terms of
14 understanding what can be done safely on the airfield.
15 But I really want to focus on the future today.
16 With the passage of this rule, we now have a comprehensive
17 suite of rules that are affecting our fleet out -- in
18 California. Have the off-road diesel rules, the large
19 spark ignition rule, the portable engine rule. Even the
20 off-road diesel rule there are some pieces of equipment
21 that we operate on the airfield that are impacted.
22 So, now we've got a comprehensive suite of rules
23 that are requiring a tremendous amount of effort, a
24 tremendous amount of expense. And as we look forward into
25 the future, we're seeing more and more folks talk about
climate change, an issue that's very important to us. We just want to make sure that you all are cognizant of what you've required of us thus far and make sure that all the effort that we're undertaking isn't negated by any future regs that might be aimed at a different category of emissions.

And I just want to say that I'm not out here only to speak on this rule. I'm out here to speak -- working with airports looking at greenhouse gas emissions. And we're working with airports to try to figure that out. And I have to say, some of the airports are not aware of what's going on. So I welcome the comments about trying to quantify the GHG reductions that are going to result from all these rules and all the efforts that we're undertaking.

So we look forward to that.

I think too that looking to the future, the thing that's in our -- right now so important is the economy and the economic situation that we find ourselves in. I think that it's important. I just want to make clear we have always supported the emission reduction targets. We just want to get there in the right -- in a good path, good, efficient path that makes sense.

I just want to -- I'm happy that you folks zeroed right in on this issue of what isn't a benefit -- what is
I think the issue really is one -- there will be an emissions benefit loss under any scenario when you implement this.

The question though is -- you know, these lines are shifting down, right? So even with the relief that is provided, we're still I think going to be below where we otherwise would have been under the projections that were made earlier.

So that's really the key issue. And I hope you all focus on that. And we need to do this in October, not mid-2010. We need to do it in October, as was scheduled. And I'm really in support of that.

So thank you very much.

CHAIRPERSON NICHOLS: Mr. Pohle, thank you for that.

Okay. Mr. Kubsh for MECA.

MR. KUBSH: Good afternoon, Chairman Nichols, members of the Board. My name's Joe Kubsh. I'm the Executive Director of the Manufacturers Emission Control Association. And I have a very simple message here for you all today.

One, the emission control industry is ready to provide verified retrofit technologies for the off-road rule today. We've certainly worked hard to expand the
retrofit options that are on the verified list. And there are more verified retrofit options coming to provide both PM and NOx reductions for off-road equipment. And we're hopeful that the early incentives that are a part of this package will be used by the industry to implement the verified technologies that are available.

My second point is that my industry needs regulatory certainty to build a viable business and to create tens of thousands of jobs associated with emission control technology; and that's implementation as a part of this and other rules that you all have adopted.

Regulatory certainty is critically important to make sure that these companies can continue to invest their resources to deliver verified technologies for use both off road and on road as a part of your regulations.

And my third point is that given the shortfalls that will be created as a part of the provisions that you will adopt here today, there are other opportunities of using emission control in other mobile sources that my industry can help to provide some additional emission reductions to help close that gap. There are opportunities for using emission controls on off-road gasoline engines that still haven't been utilized by the State of California. There are opportunities for emission reductions on crankcase emissions that are a part of all
existing diesel engines, whether they be off road or on 
road.

So there are other opportunities that will be 
available to you to help close some of the gap that is 
created by the proposals that you will certainly approve 
here today.

And I thank you for your time.

CHAIRPERSON NICHOLS: Thank you, Mr. Kubsh.

Henry Hogo, followed by Mike Salm.

MR. HOGO: Good morning, Madam Chair, members of 
the Board. I'm Henry Hogo, Assistant Deputy Executive 
officer of our Mobile Source Division at the South Coast 
AQMD.

We have submitted a written comment relative to 
the proposed amendments. But first I want to say that we 
commend staff for proposing amendments that address AB 8 
2X and commend staff for proposing early incentives to 
trying to offset some of the emission benefits loss. But 
we believe that there are -- there is a need to have 
further language added to the amendments to fully recoup 
the emission benefits lost.

I want to comment on Board Member Berg's comment 
about the parking of vehicles. Where we see the issue in 
emission benefits loss is that when a fleet receives the 
retirement credit, they can use that to offset any further
action in the future.

So if a fleet has a fear Tier 0 vehicle, they may have retired a few or taken them out of their fleet. But the ones that are retired and will be parked could be used again in the future. And that vehicle would have been cleaned up under the existing regulation. So we believe those credits, even though they're appropriate for the economic situation today, they should be sunset after 2012 or not be used after 2012. And we have proposed that type of amendment be added to the early credit provision.

In addition, we would like to see language added to the adopting resolution -- I'm sorry -- adopting resolution to monitor the economic situation. And if the economic situation does not improve, this language could be removed again or the Board can propose some potential other actions to seek further relief.

We believe the Legislature intended to really have a temporary use of these credits. And they did that with a reduced activity credit, that those credits can only be used for the next couple years.

And you did receive a letter from the Legislature stating that if there are emission losses -- or the emission benefits are compromised, that further amendments should be made. We fully urge you to consider this additional language.
Thank you.

CHAIRPERSON NICHOLS: Thank you.

BOARD MEMBER BERG: Madam Chair, could I just ask a quick question?

CHAIRPERSON NICHOLS: Yeah, sure.

BOARD MEMBER BERG: Mr. Hogo, could you comment on how you see this change affecting the SOON program.

MR. HOGO: We actually have had fleets applying for SOON. And we're still oversubscribed in the sense of fleets that do have the ability to look at replacing their vehicles come in. And because of this lower activity, we believe that there may be more applications to the SOON program.

CHAIRPERSON NICHOLS: Yes, Mayor Loveridge.

BOARD MEMBER LOVERIDGE: Just at the conclusion of testimony I'd like staff to respond to the two suggestions offered by Henry Hogo.

CHAIRPERSON NICHOLS: Okay. We'll do that at the end then.

Mr. Salm, followed by Alexandria Sanchez.

Is Mike Salm here? Salm Engineering and Grading Contractors.

All right. Let's hear from Alexandria Sanchez.

Welcome.

MS. SANCHEZ: Hi. My name's Alexandria
Sanchez. I'm a field representative for Assemblyman Anderson's office. And I just wanted to briefly read you a letter that he submitted to you guys.

"I write this letter to request that the California Air Resources Board allow more time for the compliance with the emissions regulations for construction equipment and other off-road diesel fueled vehicles, which was passed in 2007."

"As I've previously stated, the Board's goal when these standards were set was a noble one. All Californians want clean air. In fact, California's construction industry has done its best to comply with the new standards and have begun to use newer less toxic equipment to achieve that end since regulations were passed."

"However, the Board must consider the economic environment in which we currently live. Construction in California is down dramatically. And many California construction companies, which at one time employed nearly one million citizens in our state, are looking at closing down, if they have not done so already, as they're unable to meet these new standards in the cost effective manner. We must not let this happen. We must
get California moving forward again.

"At this time in our State’s history, we need
to balance our desire to be a national leader on
clean air with economic realities of our time.

"I ask that CARB - California Air Resources
Board - relax its emissions regulations
passed in 2007 and allow more time for the owners
of targeted vehicles to comply with the Board's
goals and keep this industry alive in California.

"Thank you for your consideration on this
matter.

"Sincerely, Joel Anderson, Assemblyman."

Thank you for your time.

CHAIRPERSON NICHOLS: Thank you. Thanks, Ms.
Sanchez, and thanks to the Assembly Member for writing to
us.

All right. Michael Lewis then, followed by Scott
Erreca.

MR. LEWIS: Good morning, ladies and gentlemen.
I'm Mike Lewis with the Construction Industry Air Quality
Coalition. And I wanted to bring to your attention a
couple of things.

First of all, we support the proposed amendments
to the rule as far as they go. And we think there's three
items that we'd like to have you address.
One is with regard to the reduced fleet activity and the definition of the period in which reduced activity is calculated. We propose that it be the year-ending July 1st, 2007, as it is proposed for the March 1st, 2010, rather than the midpoint of the year, which is what you're staff is proposing. And I think if you look at the intent of the legislation, that it be the period between those two dates. It's between and not partially between.

Secondly, with regard to the sale of vehicles, your staff's proposing to add a provision that the seller must also notify CARB. We think that's an unnecessary duplication of activity. The purchaser is required to notify. They're required to register it in the DOORS system. Your staff could easily amend the DOORS program to allow for the purchaser to enter that data and to send a confirming notice to the seller that they in fact transferred it to that individual.

Thirdly, with regard to VDECS, the staff is proposing a test, if you will, for determination on the installation of VDECS is impossible. We think that's not a very realistic test, that it's an unachievable objective, and that you need to look at infeasible or impractical as the definition for determination on installation of VDECS.

Finally, I'd like to address the myth, if I can,
of lost benefits.

It's clear from the data that you have already, with 97,000 pieces of equipment in the DOORS system, that the fleet is smaller than you had originally projected, it is newer than you had originally projected, and its characteristics -- its operating characteristics are very different. It's lower horsepower equipment, tends to be newer, tends to be operated fewer hours.

Even South Coast in their comment letter estimated that the fleet was going to be about 30 percent smaller than had originally been the case.

Simply put, the emissions that you're trying to reduce never existed in the first place. And I think, Supervisor Roberts, you're right to raise the question of where that blue line is. That blue line assumed a much bigger fleet with older equipment and a recession that never occurred.

If you recalculated that line, I think you'd find that it in fact is well below where that red line is on the staff's chart. And I hope that in October the staff will come back with an updated accurate calculation of those emissions.

But I think it's just ingenuous to continue to perpetrate this myth that somehow we're losing benefits when in fact those emissions didn't exist in the first
1 place.
2 Finally, the last time I was here I showed a
3 chart of what's happening to this industry. Not much has
4 changed except the numbers have continued to decline.
5 I've got an update of that chart. And if you look closely
6 at the numbers, you can see that virtually every measure
7 of construction activity in California is on the downward
8 trend, and is continuing so and probably will until some
9 time in the middle or late next year.
10 Thank you
11 CHAIRPERSON NICHOLS: Thank you, Mr. Lewis.
12 I have actually one question which might extend
13 your time for just a second. I took notes on your
14 comments. And I only wanted to ask you about the one
15 relating to notification.
16 MR. LEWIS: Yes.
17 CHAIRPERSON NICHOLS: As I understand it, the
18 seller notification relates to this issue about credits,
19 when people are seeking credit for having reduced their
20 fleet size. And I'm just wondering why you would put the
21 burden on the buyer to be taking care of making sure that
22 the seller's accounting is in order.
23 MR. LEWIS: Well, currently the burden is on the
24 buyer. Your staff's proposing to now add an additional
25 step where the seller has to provide notification that he
sold the equipment to another -- to the purchaser. And
right now the burden's on the buyer to have to add it to
his fleet for his purposes of bringing his information
up-to-date on the DOORS system.

Frankly, we see it as just one more step that's
going to create a potential violation for somebody. But
the way the system works right now, the buyer can't enter
it into the DOORS system until the seller releases it.
And what suggest is rather requiring the seller to do
that, allow the buyer to enter it and provide notice to
the seller that they can confirm that in fact they did
transfer the ownership to that individual. There is no
other way to -- you know, this isn't a DMV process where
there's -- where paperwork gets cleared and transferred.

CHAIRPERSON NICHOLS: I understand. I'm
interested in reducing paperwork burdens wherever
possible. That is why I flagged this issue when you
mentioned it.

MR. LEWIS: Okay.

CHAIRPERSON NICHOLS: Staff, I don't know if you
want to respond right now or if you want to wait until
later in terms of what you're thinking.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: No, we can address this one right now.

In conjunction with reporting your vehicles, ARB
issues an equipment identification number, almost like a license plate for the vehicle. That sticks with the vehicle for the life of the equipment.

And so what happens is that when a transaction occurs in between the annual reporting periods, there's no obligation for the seller to let us know that he no longer has this vehicle. It's somebody else's responsibility. And we hope that the buyer will tell us that that may or may not necessarily happen. So we see this as a process whereby when a vehicle is observed out in the field with a particular number on it, we'll be able to clearly know who's responsible for that vehicle, so we won't have to be switching identification numbers, because we -- the buyer tells us they got it but we don't necessarily know who they got it from. And so there's a different number on that.

And I guess I would liken it to when you sell a vehicle, you have to let the DMV know that somebody else has taken, you know, the legal liability for that vehicle if it's, you know, found on the road, if it gets a parking ticket or what have you.

So it's very much akin to a system whereby we'll be able to follow who is responsible for a vehicle and who's responsible for the compliance of that vehicle in the field.
CHAIRPERSON NICHOLS: Okay. I understand. I'll think about this some more, but I appreciate your comment. Thanks.

Okay. Scott Erreca, followed by Jeff Farano.

MR. ERRECA: Ladies and gentlemen, my name is Scott Erreca. I'm Vice President of Erreca's, Incorporated. We've been in business in San Diego since 1955. We are a large fleet owner. And I am a former president of the AGC here in San Diego. So I've been involved in the industry pretty much most of my life.

The regulation is an onerous regulation and we as an industry I think have adopted the mind-set that, you know, it's not going to go away, it's something we all have to live with, and it's something that we all need because we all need clean air.

But to emphasize what Supervisor Roberts saw. In 2005 -- we budget all our equipment based on usable hours so we know what our costs are. Our usable hours depending on the pieces of equipment usually run between 1200 and 1400 hours. Our fiscal year this year will end September 30th. We won't have one piece exceed 500 hours. Most of them will be between 350 and 400 hours.

I'm a union contractor. We employ operating engineers. In 2005 I had a 125 operating engineers on the payroll. This year I've got less than 30.
This is a tough, tough time for this industry. The regulations that are coming forward are expensive. We know that. We're trying to plan for it. But right now we need time. We need time to be able to hold our businesses together. I've gone from a volume of close to $90 million a year down to $40 million a year, and I haven't laid off one person that is associated with overhead.

I have to do that this Friday. I'm going to cut my staff by 30 percent, and I hope it's enough. We need time. And in this regulation, there's things that you can do that can help us. The paperwork that you ask for us to do, you also say that we can do it electronically. My staff is pulling their hair out trying to be able to do it electronically when the websites don't work. Don't ask us to do something we can't do.

The update on the equipment we know has to be done. We know right now parking the equipment, and equipment that's usually valued at $700,000 per piece, is down at market level in auctions anywhere from 200 to $225,000, in the retrofit to bring it up to a Tier 3 level is $430,000.

It doesn't take an economic major to understand it's not viable to spend that kind of money in a depressed market. We need the time.

The last point I'd like to make. In your
amendment as far as safety, you mention if the VDECS can't
be put in and it's impossible. Don't give enforcement the
wording "impossible," because then you can come out and
someone can sit there and try to have us spend a fortune
to try to make it work and it still won't work.

Thank you.

CHAIRPERSON NICHOLS: Thank you.

BOARD MEMBER ROBERTS: Before you --

BOARD MEMBER RIORDAN: Madam Chairman?

BOARD MEMBER ROBERTS: Go ahead, Barb.

We've got a couple questions for --

BOARD MEMBER RIORDAN: I'm trying to decide if my
microphone is on or not.

Let me ask about this website. Certainly we need
to be very helpful in that. And so I'm just -- I don't
know the details, but I am hoping that some staff member
can meet with this gentleman and to try to work something
out, because we don't want to make life miserable. Your
life is miserable already. But, you know, we don't
need --

(Laughter.)

BOARD MEMBER RIORDAN: -- to add to it.

No, no, no, no.

MR. ERRECA: You have no idea.

(Laughter.)
BOARD MEMBER RIORDAN: No, no, no, no. He is reflecting what is happening. I happen to be from the San Bernardino County area. And I can tell you this machinery is parked, and they have no project on the ground ready to go. I mean it's really tough.

So we need to do everything possible to work through the reporting system. And I don't think we can do it publicly. But let's have somebody meet with him maybe after this particular item.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Absolutely, Board Member Riordan.

Just so that -- this is the first we've heard of some problems with the website. So far we felt the website's been very successful in terms of accepting data. We've received information from 2700 fleets and over a hundred thousand vehicles already reported through our DOORS, which is our on-road reporting -- our off-road reporting system. So it seems to have been very successful. And we have resources available where we can help this gentleman get his information in. And we'll get his information after the hearing and --

MR. ERRECA: Clarification. The original website that you had us go to to be able to work out our fleet requirements and to plan for the future worked very well, and actually gave us answers -- actually gave us answers
to questions on "what ifs," what we could do.

But what my staff is telling me now is that you refer us to go to an EXCEL spreadsheet that is very cumbersome and does not even give us the answers that we used to get beforehand.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: I understand. Okay.

MR. ERRECA: And I can't tell you exactly what that is. I'll put you in touch with my nephew. He's a graduate of USC. He's no dummy. And he's very computer literate, so he can explain everything to you.

(Laughter.)

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: That sounds good. We're happy to sit down and work with him.

CHAIRPERSON NICHOLS: Thank you, sir.

BOARD MEMBER ROBERTS: I have a question.

CHAIRPERSON NICHOLS: Oh, another question before you leave.

BOARD MEMBER ROBERTS: Your equipment, is it all the hourly metered equipment?

MR. ERRECA: Yes.

BOARD MEMBER ROBERTS: And have you projected out how -- given the credits, how this is going to work for you?
MR. ERRECA: It's going to help a lot. You know, it's not an end-all, as staff has told you, come 2013. It's a bullet. It's kind of like a bridge loan that you hope doesn't come due but it's going to come due. And I'll tell you where we're coming from if -- looking at the economics, I don't see the housing industry in California coming -- you know, I've lived and breathed with how the housing industry is probably 60 percent, 70 percent of our volume outside of public works projects. I don't see, and neither do the builders see, this industry coming back much before 2014, 2015. There's too much inventory, there's too much unsold homes, and there's too many foreclosures coming down the road, that it would take an incredible unprecedented turn of economics for us to be able to consume that kind of inventory. It's not going to happen. So I'm looking -- I'm gambling that Europe turns before we do. And we can move most of our noncompliant equipment that will need to be turned in 2013 to Europe. And we're going to downsize, because I don't see it coming back.

BOARD MEMBER ROBERTS: So by just reducing the stock of equipment that you've got and shipping it to other areas, which I guess will accomplish something for California and less so for --
MR. ERRECA: Well, it will come -- the sad part -- you know, this regulation is needed for health. But unfortunately the sad part is that it's probably going to take a really decimated effect on the industry. No offense to CARB or anybody else. It's just this is a perfect storm, and unfortunately this industry's going to be the perfect loss.

BOARD MEMBER ROBERTS: I just wanted to make an observation. It was for -- you're going through very difficult times. There was a hundred and something employees that don't have any work, and I suspect they're going through an even more difficult time right now.

MR. ERRECA: Right.

BOARD MEMBER ROBERTS: And I don't think we want to lose site of that.

MR. ERRECA: Thank you.

CHAIRPERSON NICHOLS: Thank you, Mr. Erreca.

Okay. Jeff Farano, followed my Mike Shaw.

MR. FARANO: Good morning. My name is Jeff Farano. I represent SA Recycling. SA Recycling is a steel recycling firm. We recycle metals -- ferrous and non-ferrous metals.

We would probably be considered one of the original green companies because of what we do, taking all the end-of-life automobiles, appliances and equipment off...
the streets rather than going into our dumpsites, et
cetera. And so we understand the whole green industry.

We also -- we understand the CARB's intentions
and we agree with it and the need for it and these
amendments. But we do have some specific issues that we
would like to address with you today in regard to what
you're considering.

The first is -- and also I did submit a letter to
you. I think it's in your tab as number 13, is what I'm
told. It gives you a little more history of our
company, and which is important because it kind of
addresses what our issues are.

The first one is the 2007 baseline, in which
before that that we can consider in hours of operation and
other credits. And the problem that we're having -- here
we need some flexibility in the regulations because of the
issues we have. And, that is, prior to 2007 -- or at
2007, SA Recycling grew substantially in light of the
market itself. And we have facilities now throughout the
State of California. And those were all by way of
acquisitions and mergers, et cetera. And our records that
we're still trying to figure out, our hours of operation
and equipment that we have, is -- because they're mostly
small companies, we're not very accurate. And we're still
trying to figure that out. And we need some assistance in
being able to determine -- in flexibility and in getting those credits, because a lot of that equipment, as the previous speakers, is being -- ours have been reduced. Our business has been reduced just like everybody else's. And in the end of 2008 that financial line revenue didn't go at a angle. It went straight down. But we need some assistance in helping with that equipment. And we can establish that there's less hours of operation the less equipment being used. But it's difficult to do it by way of specific record. And we like need to work with staff and in doing that, The other option -- the other consideration is the retrofit options. We need more. We're having difficulties in some of the retrofits.

And then the VDECS, the 15 percent, we disagree that it should be limited to 15 percent if it's of a benefit. In order to provide us an incentive, it shouldn't be limited to 15 percent. It should -- we're having difficult economic times. And then, finally, I would also reiterate the term of "impossibility". That is really kind of a killer to us, and I think you need to seriously consider that.

CHAIRPERSON NICHOLS: Your time is up, sir.

MR. FARANO: And I appreciate your concern. And if you have any questions for me, I'll hear and answer any
questions.

CHAIRPERSON NICHOLS: I don't want to extend your time with more questions. We're getting -- we're slipping here. But I do want to say one thing.

I am assuming - and, staff, indicate if I'm correct - that staff is available to meet with you to discuss the issues that you raised with regard to interpretation of the rule, and flexibility as far as, you know, what happens if you don't have records that you can produce to establish your baseline and that type of thing. I believe we have people who are available for just exactly this purpose.

So, Mr. White, would you please indicate that that's correct.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Yes, Madam Chairman, you are correct.

CHAIRPERSON NICHOLS: Okay. Thank you, sir.

(Laughter.)

MR. FARANO: Thank you.

CHAIRPERSON NICHOLS: Thank you.

Mike Shaw, followed by Debbie Day.

MR. SHAW: Good morning. My name is Mike Shaw. I'm a local guy. I live here in La Mesa. I've been a member of the contracting community in San Diego since 1976. And I'm a co-owner of Perry & Shaw, Inc. We are a
heavy grading contractor in southern California.

A few statistics.

In 2006 we typically employed between 150 and 175 union operating engineer workers with an annual payroll of between 10 and $11 million.

Currently we employ in the neighborhood of 20 operating engineers and our annual payroll is just at 2 million bucks.

In 2006 all of our equipment was working and we were running probably 25 to 30 percent additional capacity. Today 75 percent of our equipment is idle.

Our fleet size in 2006 was 56,000 horsepower.

Our current fleet site is about 28,000 horsepower.

Our retirements were almost entirely Tier 0. We retired these machines because it was our understanding early on in this process that we were going to be getting credits for early retirements. As it turned out, we were only getting credits for NOx in your regulation, not PM.

Now we have PM, and that will be beneficial to us.

Even with the -- we've spent over $5 million on repowers for our fleet. And we are currently at 34 percent Tier 3 on the large equipment. We are not even close to compliance in the second year of the regulation based on your current regulation.

So I have to say that these legislative changes
are very key to us and key to the survival of our
business.

There are more changes I feel need to be made.
We're in support of the CIAQC requests on this thing. I
think that one of the things that's a real problem
currently is the VDECS and the safety issue. And, you
know, I think that you should -- there should be a
requirement to respond in 30 days rather than 60 on a
request for a variance on the VDECS.

And I'll reiterate what everybody else is saying,
that the threshold of impossible is not reasonable on a
subjective process such as safety. And we -- you know, I
request that you take a good look at that. And it should
be something that would be modified to say something that
is practical.

In addition, I think that it's very important
that you look at getting good data on what really is
happening, so that when your October meeting comes around,
you have the real curves in front of you to consider
instead of the stuff that was put together several years
ago with a fleet that apparently never did exist.

So these are things I would ask you to consider.
And if the real curves tell you that the emissions aren't
there, I would ask that you might consider modifying the
regulation even more to reflect what really is happening
here.

Thank you.

CHAIRPERSON NICHOLS: Thank you, sir.

BOARD MEMBER BERG: Madam Chair, can I just clarify.

My understanding, on retirements that PM and NOx credits were given.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: During the initial adoption of the regulation, retirements where -- Tier 0 retirements in shrinking fleets were granted PM credit.

Is that correct?

My staff is telling me that I am correct in that.

So PM credit was granted, is currently in there for vehicle retirements if a shrink is -- a fleet is shrinking and they're retiring their Tier 0 vehicles, as Mr. Shaw has indicated they have.

BOARD MEMBER BERG: So that's both credits?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Both for NOx and PM, yes.

BOARD MEMBER BERG: Okay. So could you get together and make sure that you're getting all the credits you deserve?

MR. SHAW: I will when we find out what you're going to do today.
(Laughter.)

CHAIRPERSON NICHOLS: Either way you've got an issue. So one way or the other I think you need the information, sir.


MS. DAY: Good morning. My name is Debbie Day, and I'm the Executive Director of the Engineering and General Contractors Association. We represent the general engineering contractors in San Diego, those who do the infrastructure work; the contractors who use, buy, sell, and retrofit that big yellow iron.

When this process started the early stages of the regulation formation, the information provided by staff was biased and much of it inaccurate. Data and statistics provided to staff by the industry were immediately suspect. It's been a long journey, and I hope today, with your help, we can take several giant steps forward.

Because of the off-road regulation and the convergence of the regulation, the worldwide decline of the economy, including the U.S. banking system and our State debacle, the construction industry in California is at a virtual standstill.

I am asking you today to help put the industry back to work.
With few exceptions, the construction industry is made up of reasonable, well meaning people. Recent articles seem to imply there is empathy building in Sacramento for the VDECS industry. If the regulation is modified favorably to construction fleets, the VDECS companies, an industry that didn't exist a decade ago, might be irreparably harmed. That sentiment doesn't seem to exist for the construction community, many of whom have been building your infrastructure, your homes, and your office buildings for centuries, and many of whom have had to close the DOORS on second and third generation companies.

In a recession, construction is always the first to come back. We need to work together to help stimulate the business in California by bringing back construction jobs.

You as Board members have the ability to lead the way to a once-again healthy, vibrant California economy. Please today add the legislative amendments to the off-road regulation, recognize the reduction in the size of fleets, the resulting reduction in emissions statewide, and the benefits therefrom to the health of our California residents. Direct staff to review fleet data available from company reporting, and update their model and emission assumptions. And relax the safety determination.
by removing the impossible language. It sets the bar too high.

The legislative changes you are considering will be helpful. However, there are key issues that still need to be resolved.

Thank you for meeting in San Diego and thank you for your anticipated help.

CHAIRPERSON NICHOLS: Ms. Day, I want to just make a comment to you, because your remarks are rather general in nature as well as the specific comments. And one of the things your testimony is asking us for is to show empathy to, you know, work with your industry and so forth. And I believe that there's actually a pretty good history in the development of this rule of the Air Resources Board working with the industry as the rule was developed.

But in order to engage in a truly partnership kind of relationship and discussion, there has to be some degree of respect I believe shown on both sides. And when you use terms like "biased inventory," those are very loaded words. I understand that there are people who disagree with the numbers as to what the emissions from the fleet in California are today or even what they were at the time that the rule was granted -- or the rule was first passed by the staff. We went into that very
extensively. And at the end of the day we adopted a rule based on the best information that we had. But to refer to that as biased is simply sending a message to the public and to your members that somehow there's an agency up there in Sacramento that's trying to use inflated numbers or deliberately somehow, you know, distorting the situation. And that's factually not correct. I don't believe you have any reason to believe that that's correct. And I think when you make statements like that, you hurt your credibility, frankly.

So I just want to make that comment to you, because I hope you'll reconsider as you -- as we move forward in this discussion. Otherwise I think there's a lot of merit in your comments and I hope we're going to be able to respond to some of them, frankly.

MS. DAY: Thank you. And I apologize if I've offended anybody.

I do think when this process started that staff had built the case for the regulation around incorrect data. And they were extremely helpful in working with us. We worked closely with a lot of your staff all over California. EGCA is a member of CIAQC and we've worked with CIAQC.

It did seem that no matter what the data was that the industry put forward, that it was rejected by staff as
inaccurate.

So I do apologize if I've offended anybody. I do think that certainly in recent months that there has been a lot of working together and there have been some concessions made and we're very grateful for those. I didn't mean to offend staff.

CHAIRPERSON NICHOLS: And I just took advantage of this opportunity to -- because I really think that we're at a point where we're searching for right answers here.

MS. DAY: I agree. I absolutely agree.

CHAIRPERSON NICHOLS: And so hopefully we can continue in that --

MS. DAY: And I think my comment that was apparently offensive did have to do with the beginning stages of putting this regulation together.

And I do think that in recent months things have been changed, and we're very appreciative for that and for the help that we're hoping you'll give us.

CHAIRPERSON NICHOLS: Thank you.

MS. DAY: So thank you.

BOARD MEMBER ROBERTS: I have one question. And I, first of all, would have associated myself with the comments that are made. And I appreciate your recognition and acceptance of that.
But in addition to changing the word "impossible"
that's come up several times - I heard you associate
yourself with that - it's not clear to me that the other
things -- it seems to me that the other things that are in
the staff recommendation, the changes here, that you're
also in agreement with those. Is that --

MS. DAY: (Nods head.)

BOARD MEMBER ROBERTS: There's other things
longer. You've made reference to the recognition and the
reductions in sizes, which the staff is going to be coming
back with additional information for us to look at. But
in terms of what we're doing today, it sounds -- I may be
missing something. I'm trying to pin this down, if you
would help me. The specific things with respect to the
staff recommendation today, you have a concern with the
word "impossible". Are there other specific concerns?
Because it's not clear to me.

MS. DAY: Do you want me to -- I think -- what
I'm asking is what I think most of the speakers that have
been speaking this morning having to do with the
regulation are asking for.

I'd be happy to reread what I have.

BOARD MEMBER ROBERTS: Yeah, help me -- could you
get to the specific things with respect to the staff
recommendation that's before us today?
MS. DAY: The recommendations that we are hoping will be considered, that you will add the legislative amendments to the off-road regulation; recognize the reduction in size of fleets, the resulting reduction in emissions - which has partially to do in my opinion with the industry downturn, but it also has to do with the impact that the regulation has made on the industry - and the benefits that have come from that reduction; and to direct staff to review the fleet data that's available now that the machinery has been registered, and from the company reporting from the registration, and update their model in emissions assumptions.

So take that information into consideration when you're looking at proposed changes that you might be willing to make.

BOARD MEMBER ROBERTS: Okay. I think we're largely agreeing on everything --

MS. DAY: Does that answer your questions?

CHAIRPERSON NICHOLS: I think so.

MS. DAY: Okay. Thank you very much.

BOARD MEMBER ROBERTS: The only thing that's dangling out there may be the word "impossible".

CHAIRPERSON NICHOLS: That's definitely a red flag.

MS. DAY: The impossible dream maybe.
BOARD MEMBER ROBERTS: Well, we've got a lot of dreams.

MS. DAY: Thank you.

CHAIRPERSON NICHOLS: Thanks.

All right. Nick Pfeifer, followed by Sean Edgar.

MR. PFEIFER: My name's Nick Pfeifer. I work for Granite Construction, Inc., as a member of their corporate equipment department. And one of my responsibilities in that position is ensuring that Granite is in compliance with the off-road rule and other CARB regulations. And I'm also a member of the Off-Road Implementation Advisory Group.

Granite's off-road equipment fleet is approximately 1100 pieces -- or was approximately 1100 pieces. That number's constantly changing. And I'm here today to ask the Board to approve the amendments proposed by staff to give fleets credit for emissions reductions over the past three years.

Granite has seen a huge decrease in activity over the past three years. We're currently working on exactly what that number is. What I can tell you is it's in excess of a 30 percent reduction from 2007 levels.

And we're also seeing equipment disposals in excess of what our initial compliance plans were. For those reasons, we feel that the credits will...
give fleets recognition for actual emissions reductions and will allow fleets to bridge the gap to Tier 4 engine technology. I think this -- you know, this reduction in fleet size with moving the older equipment out of California, the hope being that when things pick up, the new equipment available is going to come with Tier 4 engines and will be the cleanest engines available.

My one concern today is something that was mentioned with Mike Lewis. And it's the proposed requirement for reporting an engine sale within 30 days. This is something that I feel is an additional administrative liability on a fleet. And I don't think it is a necessary step to add to the process. I think something similar to what CIAQC has proposed where the DOORS system kicks out a confirmation that goes to the equipment owner, or you can simply confirm that a piece of equipment has been disposed of, rather than placing an additional administrative requirement that could create a possible citation, is -- I think that's a logical step.

So I appreciate the opportunity to testify today.

Thank you.
Coalition. Thank you very much for the opportunity to speak to you this morning. And I'd like also to thank the Board on giving credit where credit is desperately needed and due relative to recognizing the emissions reductions that are ongoing. As Mr. Pfeifer referenced, the industry's looking for a bridge. Hopefully it is a shuffle ready bridge that we'll see to be built very soon to a place that will bring us back to be a fantastic golden state.

But all for today, we know that times have changed significantly just since you were last in San Diego in May of 2007 hearing about this particular item at your first hearing on this item. And your staff at that time was referencing that the economy was still a little bit humming. Some of the contractors that you've heard from today were perhaps still experiencing the economy humming a little bit. And of course the bottom has dropped out. And here we are essentially today establishing a process that the Legislature granted this Board to give credit where the credit is reflective of real emissions reductions.

So we'll look forward to working with your staff in the confines of the three elements that were discussed to really drill down on getting credit where it's commensurate with the reality that the equipment is
running less. As Mrs. Riordan was observing out in the
Inland Empire and, Mayor Loveridge, in your neighborhood,
this tremendous and significant emissions reductions. And
we obviously want to make sure that the credit reflects
what the reality is of less emissions.

And I'll just reference in closing that you heard
some very impassioned testimony from Mr. Erreca and Mr.
Shaw and Mr. Farano referencing the difficult times that
industry is in. However, you also realize that those same
folks are staring down the truck and bus rule which we're
going to work aggressively to work through the track
process to get that rule hopefully kicked off successfully
and at a good rate. However, we know we're going to have
challenges on the statewide truck and bus rule in this
same context. And your staff estimates about 76,000
heavy-duty diesel vehicles in the hands of the same
contractor community that you've heard from today. So
that's just going to -- it's going to be a very
significant effort that's going to be needed.

So, in closing, I'll just echo Mr. Lewis's
comments to say that flexibility on the baseline date
would really be appreciated, especially in the context, as
I say, recycling had mentioned where records aren't
available.

And, Chair Nichols, I appreciate your indicating
that staff can be creative and reasonable on working with industry on some flexibility provisions relative to documents.

The VDECS, you heard from Mr. Kubsh that they're making great strides. But they need some certainty. And I was perhaps a naysayer in the nine years I've been doing this. The retrofit device industry has really stepped forward on the on-road, and I think they're starting to launch into off-road.

And, finally, just on limiting the early carrot, what I'll call the early retrofit provision, we'd like to see that expanded beyond 15 percent if possible. And of course your ongoing economic monitoring is appreciated.

So thank you giving credit where credit is due.

CHAIRPERSON NICHOLS: Thank you very much, Mr. Edgar.

Lynn Devine, followed by Tom Swenson.

MS. DEVINE: Good morning. It is still morning. I'm Lynn Devine. I'm testifying on behalf of the American Lung Association to express our disappointment with the rollback in the off-road diesel regulatory requirements being considered by the Board today.

As you are well aware, these regulations to control diesel emissions are cornerstone to achieving healthy air in California and meeting federally mandated
air quality standards.

Staff has previously indicated that modifications to the off-road regulation as mandated in Assembly Bill X 28 are estimated to result in the 17 percent shortfall in emission reductions needed from the off-road equipment in 2014. A critical air quality deadline.

We recognize that staff is still reviewing the inventory and developing updated estimates of the emission impacts of the regulations and the downsizing of fleets that has occurred due to the economy.

However, any loss of emissions benefits is unwarranted due to the severe air quality and public health situation in California. Rollbacks to existing diesel regulations not only threaten public health, but shift the burden of emission reductions on to other sectors of the economy, likely at a higher cost.

If the future emissions reductions lost from Assembly Bill X 28 are not somehow obtained from off-road diesel equipment, these emission reductions will need to be found elsewhere. Given that diesel emission reductions are highly cost effective, it is likely that substitute measures to make up for these emission reduction losses will be even more costly.

California and the Air Resources Board have long been a leader in reducing air pollution emissions and
particularly stands out for its groundbreaking efforts to reducing diesel emissions.

My son and I both have asthma that needs to be monitored and managed. We are greatly disappointed that the Legislature and the Governor directed this revision in the CARB regulation and are very concerned about the impact of the revision on public health and the State's clean air goals.

The ALA appreciates that the staff did include some provisions intended to incentivize early retrofits and off-road equipment and thereby reduce emission impacts of the revisions.

We urge the Air Resources Board to conduct a careful accounting of the process of the Off-Road Construction Equipment Rule and reducing diesel emissions and progress towards State Implementation Plan compliance targets.

We believe the Board must carefully account for any losses of emission reductions due to the revisions being adopted today, and be ready with contingency measures to make up emissions losses and to keep California on track with its State Implementation Plan.

Thank you.

CHAIRPERSON NICHOLS: Thank you, Ms. Devine.

Tom Swenson, followed by William Davis.
MR. SWENSON: Good morning. Tom Swenson, Cleaire Emission Controls Director of Regulatory Compliance.

We're a California manufacturer of retrofit equipment. We're headquartered in San Leandro, California, with manufacturing right here in San Diego.

We offer three products currently verified for off-road equipment including one that provides NOx reductions. And we continue to make investments in additional technologies to bring them forward to compliance.

I'd like to echo some of the comments here around a certainty. Wherever you folks land today or in October or next January or I don't know when, we're making business decisions based -- and investments based on these decisions. Our products are not things that people go out and buy because they want them. They buy them because they're regulatory required to do them.

It takes us on the order of 12 to 18 months from when we conceive of a product, develop it internally, bring it forward to the verification folks at CARB, run the processes there to bring it to market. So our lead times are pretty substantial. And then that doesn't include what we need to do relative to production requirements and tooling and those sorts of things.

So what we're looking for you folks to do is land somewhere, so that we can then make whatever investments
are appropriate, so we can bring cost effective solutions
to comply with your rule.

Just one last comment. At the end of 2009 is a
popular milestone year for your regulations. We've got
the refuse and the municipal and utility vehicle
regulations. Big year for that. Plus the school bus
incentive money is coming out now, which will make the end
of the year quite busy for us.

And the other piece of the -- is the double
credit for large fleets. And we're trying to sort of
manage all that. And if it was all possible to even push
that out three months, the large fleet double credit, into
the end of March, that would be quite helpful for us in
terms of manufacturing and installation.

Thank you.

Thank you.

William Davis, followed by Glenn Inverso.

MR. DAVIS: Good morning, Madam Chairman and
members of the Board. It's good to see you all in
southern California, and certainly a much easier commute
as I was -- I'm Bill Davis. I'm with the Southern
California Contractors Association.

So I was driving from my home in San Pedro this
morning. I was listening to the San Diego radio station
to try to get some clue about what horrible traffic I'd be
facing. And, lo and behold, here comes the big promotion
for Comic-Con, which as you -- those of you who know me, I
sort of have a literary bent. And this one brought
forward my big attraction to comic books when I was a boy,
especially one of my favorites, which was Flash Gordon.
The great villain in that series was Ming the
Merciless, who opposed Flash at every turn.
And so using that metaphor I must tell you that
when we started this journey on the off-road regulation
nearly five years ago, your agency often played the role
of Ming the Merciless for those of us in the construction
business.
Today marks the culmination of a very long
process involving the housing bubble, the global economic
collapse, fraud on Wall Street, unrelenting pressure on
the environment, and the Legislature. We were and are
very grateful to the Legislature for providing this
opportunity for our industry to receive small
consideration due to the terrible economic situation that
you all have heard about today and over and over again.
And we hope with your adoption of these
provisions that the days of role playing for all of us are
behind us. We partnered with your staff through the
Off-road Diesel Implementation Group, the ORIAG Group,
Elizabeth and Erik and Kim, over the last year. And we
have broadened our understanding of the rules. We've
transmitted that broader understanding to our members.
This past week we contacted every single fleet
owner who's a member of our association and told them that
they had to get their registration in or face the
consequences.
And we were doing some of your work, I hope, for
that.
And we also think that through this process the
staff has gained a deeper understanding of our industry.
And I was pleased to see that they're expanding the ORIAG
concept into the on-road diesel regulation with a similar
group. And that's all good news.
There will be other issues and challenges ahead
of us. But it is our sincere hope that we can all, all
leave our superhero capes at the door as we go forward and
work cooperatively to resolve these issues without rancor
and based on good economics, good science, not science
fiction.
Thank you very much.
CHAIRPERSON NICHOLS: Thank you, sir. I
appreciate your comments. And it's nice to have a
literary reference, even if it is to Flash Gordon.
(Laughter.)
BOARD MEMBER ROBERTS: I'm hopeful he'll go and
change into his Flash Gordon outfit and head down to Comic-Con next. (Laughter.)

CHAIRPERSON NICHOLS: I would take off my cape, except it's cold up here. (Laughter.)

CHAIRPERSON NICHOLS: All right. Mr. Inverso, welcome.

MR. INVERSO: Yes, thank you. My name is Glenn Inverso. We run a family business that's been in business for 63 years in San Diego County. This is my first time speaking, but I had to say something. I don't know if I'm nervous or just frustrated.

But like you heard before from the contractors, the feeling on the street is a lot of frustration. There's no incentive to grow, because these regulations -- remember, this is one of many regulations we deal with. The frustration is not to grow; it's to downsize. Everybody I talked to, and we're in the same predicament, our equipment usage is down 60 percent or we had -- we're half of what we were last year unemployment.

So what worries me is we keep layering more and more regulations on the private sector. We're laying people off. People are going on unemployment. You lose
your tax base, and pretty soon who funds CARB or who funds the Government? That's what -- I mean I know it's common sense. But I can't comprehend with the layers of bureaucracy and trying to run a business and try to turn a profit - which is not evil to make a profit these days - I'm just worried about small business -- we work a lot with small and medium-sized business. The feeling in the street is they're going to shut down, they're going to downsize to a point where they can survive. And then at that point they're going to shut down. So I just wanted to make that point.

Thank you.

CHAIRPERSON NICHOLS: Well, thank you for coming out.

BOARD MEMBER ROBERTS: Madam Chair, you might -- since small business was mentioned and you had an announcement that went out regarding a new staff person, you might make him aware of that.

CHAIRPERSON NICHOLS: Oh. Well, yeah, it's a -- we had not put out a formal announcement. We're going to kind of wait until she arrives. But we have filled the role of small business ombudsperson for the Air Resources Board. We've made an appointment of a person who used to do something similar for the South Coast District back when they were first really beginning to deal with a lot
of different types of industries that they hadn't regulated in the past. And she's achieved a lot of recognition at the national level for her work in this area. She's a small business person herself. Her name is La Ronda Bowen, and she'll be joining us on Monday. And her specific mission is to work with us to make sure that our regulations appropriately reflect and understand the needs of small businesses and also to make sure that we're doing outreach across the board in a more effective manner in terms of dealing with small businesses.

I do think our staff has in this and other rules developed, you know, fairly good working relationships with a lot of associations and groups. They've evolved some pretty good techniques in terms of going out on the road and doing demonstrations. And I know we have a number of people on our staff whose numbers are on speed dial to people in the industry who have questions. And I'm sure you could be one of their regular callers if you were so inclined.

But mainly I think we all recognize that we're in very -- this is not just a typical cycle that we're in in California. This is a very serious -- a very serious economic crisis that we're in the middle of. We do need to bend our efforts to doing what we can to help get out of it.
And I made a comment before which it may have
seemed facetious. But, you know, in a sense I suppose you
could say one of the few benefits that you can see out of
a bad economy is, yeah, there aren't a lot of -- there
aren't as many emissions of pollution out there. It's not
as much as pollution as we thought there was going to be.
This is not the way we like to go about achieving these
results. This is not our goal. Like you, we want to see
growth, we want to see people buying new equipment, people
being able to invest in the newer, cleaner equipment
that's coming on board. That's what we are about in terms
of pushing new technologies.

So what we're here to do today is to try to make
some modifications in the existing rules to make them
hopefully a little bit more adaptable and useful for the
people who have to live with them.

But in the broader sense, we know that going
forward we've got a lot of work to do to try to establish
really careful and robust relationships with all of the
groups that we regulate, especially those that are
characterized by a lot of smaller businesses. Because
these are just very difficult times for everybody and,
frankly, regulating small businesses is hard - it's hard
on the businesses. It's hard for the regulators too,
because there are just many more individual situations
that you have to be prepared to deal with. But we have to
learn how to do that better.

So we appreciate your coming and giving us your
thoughts.

Charlie Cox and Kerri Toepfer are our last two
witnesses as far as I know. If there's anybody else, you
need to make sure you've given your name in.

Okay. Mr. Cox.

MR. COX: Thank you.

Good morning, Madam Chair and members of the
Board. My name is Charlie Cox. I represent Ironman Parts
and Services. We're basically the largest retrofit
installer in the State, with more than 8,000 installations
under our belt so far. You know, when you look at the
number of retrofit installations that were performed under
the Solid Waste Collection Vehicle Rule, for example, we
did well in excess of three-quarters of those. So we've
done more than a handful.

If I could shamelessly swipe Mr. Davis's analogy.

We're the trusty sidekick in this scenario. Our task is
to make sure that the background work gets done, the
things behind the scenes get finished.

I'm also a member of the Off-Road Implementation
Advisory Group. I'm the Chairman of the Retrofit
Subcommittee. So I had couple of comments on the proposed
You've obviously heard the word "impossible" several times this morning. Clearly that's something we're not fond of either. But what I would suggest is that staff continue the progress they're trying to make with the Occupational Safety and Health Standards Board in terms of selecting which standards, whether they're ISO or SAE, some form of standards that we can abide by. Obviously as an installer and someone with a lot to gain or lose by doing this right or doing this wrong, we very clearly need to understand what our rules are, what the rules of engagement are. We will abide. We just need to know what they are very soon.

In terms of the double credit. I wanted to point out something that's a little -- a small change I think, small twist from what you've heard so far, in that, you know, clearly large fleets are not immune from these economic changes that have been taking place. Small fleets absolutely take a hit. Medium fleets take a hit. But the proposal right now before you is to extend the double PM deadline for small and medium fleets but not for large.

Now, that's challenging, because particularly for larger fleets, they're looking at the bottom line, they're trying to find a way to cost effectively achieve these
emissions reduction credits. And most of them are trying to do so through the use of larger horsepower, higher dollar machines that are harder to replace. The available options for those fleet operators is significantly smaller than it is for, say, medium and small engines.

So we propose potentially extending that deadline for the large fleets, if not for the same timeframe, maybe at least until the Board hears the update from staff, whether that's in six months - I heard a proposal for some time next year. So whenever that update takes place, I would like to see maybe the large fleet's deadline extended until that point. Just a thought.

And, finally, just pointing out that we're capable of handling many more installations than we're presently doing. As Tom Swenson from Cleaire already pointed out, people don't buy these because they like to, people buy them because they have to. So we're directly affected by your changes today as well.

Thank you.

CHAIRPERSON NICHOLS: Okay. Thank you.

We have our last witness then, Kerri Toepfer.

MS. TOEPFER: My name is Kerri Toepfer and I work with Hawthorne Machinery.

I wanted to basically talk about what Mr. Erreca was talking about. In August of 2008 I was handed the
task of reporting our rather large fleet through the DOORS system. And in the beginning I realized -- I think I was like within the first 100 to report. And I know there's been like 4,000 fleets that have reported. So I know that everybody got really busy. And everybody was very helpful in the beginning.

And a few months ago I made several calls. I had several problems with the DOORS reporting system. You said you didn't really hear of any problems. But I never got any calls back and nobody ever even followed up with it.

I had problems with sold equipment, passwords -- I have two passwords for my account. I could never get that resolved. And information changed before my eyes of stuff that I had reported. All the manufacturers changed from Cat to Perkins. And just some weird stuff.

So I got pretty concerned, and I resorted to documenting everything with photographs for myself so I could sleep at night, because it's been kind of a grueling process. I've climbed all over engines and machines and, you know, just done this whole thing. And, you know, I'm done, but I just have concerns of, you know, who's actually, you know, checking this information out or calling people back, because nobody's called me back.

So --
CHAIRPERSON NICHOLS: Would you please leave your card or your information with the clerk. And we will be sure that somebody gets back to you.

MS. TOEPFER: Thank you.

CHAIRPERSON NICHOLS: Thank you. You're duly heard here.

I have not received any other names. Is there anybody else who thought they should have been on the list that hasn't been called?

If not, I think we get to close the public hearing portion and return to discussion with the staff.

I think we've heard a number of issues that have been raised that the Board would like to probably explore a little bit further before we vote on this item.

I think the one that probably I saw the most heads nodding around was the language about impossibility as being the only way you could demonstrate that you couldn't install a piece of equipment.

So do you want to -- being a lawyer, I tend to move more in the direction of infeasibility myself.

But --

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Well, the choice of the word -- I won't say aside. Actually this new provision is one of several tests that fleets can use to demonstrate that a retrofit cannot be
installed in their vehicle.

First, if an installer or manufacturer, someone like Cleaire or Ironman, determines that it cannot be safely installed, that would satisfy the safety requirements in here and would exempt that vehicle. Certainly in being impossible in terms of being in conflict with a federal or state safety requirement clearly is our intent.

And those two aside, we have a kind of a catchall. If there's other documentation that can be provided that would show that it can also not be safely installed, that could serve as grounds as well.

So this language is one of but three tests that exist and options that exist for fleets to demonstrate that a retrofit cannot be installed on a vehicle safely.

CHAIRPERSON NICHOLS: Okay. Well, I think -- I think I will get support for my request that you change that word. It's just a -- it looks like you're setting up a barrier that is almost an impossibility literally to prove. So let's fix that one.

I mean overall it seems to me what we're doing here -- what we've heard from people is that they accept the fact that this is responsive to what we were asked to do by the Legislature and the Governor. You know, and I'd like to say I don't think -- this Board is not exactly
unaware of the fact that there are construction vehicles
parked around the state or that there's not work going on
out there. So we're not -- we didn't sponsor the
amendment. Our job is to regulate in the field of air
quality. But we certainly understand the atmosphere that
we're working in and the conditions that require this to
be done. And we're doing our best to implement the
instructions that we've received in a way that we hope
will maintain as much of the benefits as were out there as
consistent with the current situation, but at the same
time to convert as much as possible in the direction of
incentives rather than regulations. And I really do
appreciate the staff's efforts in that direction. I think
that was very positive.

However, there are clearly some indications out
there that there may be a need in the future for further
revisions or changes if by 2014 or 2013 really things
haven't turned around. And there's also a concern about
whether -- whether and when we're going to have better
data about the fleet that's out there. And I know the
staff is asking for more time for coming back to the Board
on this. But I'm wondering why you really feel you need
that amount of additional dime.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: I think that -- well, the reasons that we've asked
for some additional time is because of the new data that these proposed amendments will be providing to staff. And I think -- you heard from Ms. Day that there is always some debate as to the appropriateness of data when it's used to try and make projections and estimates of where things are and where they may go in the future. And what we have is an opportunity to get some actual data, some hard data from fleets in California that have been significantly impacted by the recession. And we can understand exactly how vehicles are being retired. Are they being retired and sold? Are they being just idled, with the intent that when times get a little better they'll be able to use those vehicles again? How much is the activity down and how has this impacted finances?

So I think we'll be able to come back with a much more robust and complete picture of what the recession has meant on emissions and on the industry if we could do that at a time after we have an opportunity to collect this data as opposed to trying to do it ahead of that data coming in.

CHAIRPERSON NICHOLS: So you expect you'll be getting this data when?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: The data to obtain the reduced activity credit will be submitted -- must be submitted to ARB by March --
it will come in next March.

So we feel that by taking that in the early
spring, crunching that data, we can come back towards the
middle of the year with an assessment of what all that
data is, and start to have some -- see some -- hopefully
see some signs of the economy starting to recover as well
and can report on that.

CHAIRPERSON NICHOLS: Comments or questions?

Barbara.

BOARD MEMBER RIORDAN: Madam Chair, there was one
element of concern that people mentioned. And I'm having
trouble trying to figure out what would be the problem.
And it was on the notification of sale.

I would think if I owned something, if I was
going to get credit for something that I had sold, I'd
want that known immediately.

It occurred to me maybe we have made it
difficult. But the notification - staff, hopefully tell
me this is true - is very succinct and very simple. Is
it?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF

WHITE: That's correct. Who you are and what the
equipment identification number of that vehicle was. I
believe that's what we're asking for.

BOARD MEMBER RIORDAN: Right. And it would seem
to me that that would just -- you know, as much as I want
to help the industry in any way I can to make life
simpler, I would think that's just something you'd want to
do, not that you have to do it. "I want that so I can
claim my credit some day."

CHAIRPERSON NICHOLS: Well, I think the fear
would be that this would then become like a separate
violation. Somebody might be cited for that if a piece of
equipment gets -- as I understand the way the enforcement
system works is, they're inspectors out there and they
actually see equipment. And if they think they've found a
violation, they're going to go searching for the person
that owns the equipment and issue a citation. This would
help avoid conflicts over who actually owned it, so it's
helpful. From the perspective of the purchaser, it helps
them not get tagged when they don't deserve to be. But at
the same time it does open up a greater risk I guess for
the seller. That seems to be the -- just for having
failed to file their paperwork on time. Or that at least
would be what they'd be worried about.

Mr. Goldstene, maybe you can elucidate this
further.

EXECUTIVE OFFICER GOLDSTENE: No, I think that
that's perfectly described. I just wanted to make you
aware that Dr. Telles has a question.
CHAIRPERSON NICHOLS: Oh, I'm so sorry.

(Laughter.)

CHAIRPERSON NICHOLS: We need to move you over or put you up on --

BOARD MEMBER LOVERIDGE: We're down in the pits.

CHAIRPERSON NICHOLS: I'm sorry.

Dr. Telles.

BOARD MEMBER TELLES: I had a data question too, because I think the 2014 deadline that we're all facing is very important. And we have a problem in San Joaquin Valley that these numbers are being used for our PM 2.5 plan and our ozone plan and all that.

And as the American Lung Association pointed out, that if we're not reaching our emissions reductions, that we're into a serious problem and this will be a bigger problem for our local industry in trying to squeeze down more emissions from them.

So I think we need, you know, the data fairly quickly to be able to do some of this planning. And it seems like a simple number that should pop out rather quickly. It's just the consumption of diesel.

I notice that the industry when they gave us this little thing, even they stopped their diesel consumption estimate at 2008. And I'm sure that number is available and you probably have it. And that would somewhat
1 indirectly correlate with what's really happening in the
2 emissions world. And I think you could use it as a rough
3 estimate.
4 Do you have any opinion on that?
5 HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
6 WHITE: Well, certainly the use of diesel fuel is one
7 indicator that we've looked at. One of the challenges
8 with diesel fuel use especially when you look at off-road
9 diesel fuel use is that, unlike gasoline that's taxed when
10 you sell it, that gasoline is not taxed. So you have it
11 going into locomotives, you have it going into
12 agricultural uses, both of which are not covered by the
13 rule, as well as the sources that are covered by the rule,
14 and then trying to tease out from that what portion of
15 that is another -- it becomes an estimate. So you've just
16 simply recreated another estimate that makes it
17 challenging.
18 We've tried to look at a lot of different
19 indicators, from housing starts to construction revenue to
20 diesel fuel use to try make some heads of that. And, you
21 know, there's certainly a range of impacts. And I think
22 we all agree that it's down. The question is certainly,
23 how far is it down? And I think we'd all like to get to
24 an answer that has probably a smaller error band around
25 it. It's been a larger one. And we feel that the data
that's going to come in is really going to give us an opportunity to do that.

BOARD MEMBER TELLES: Will the data also have - from the industry - their diesel -- you know, to get a purer picture, their diesel consumption rather than just, you know, their taking out this vehicle or whatever, but actually what they're actually burning?

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: That's one of the records that we're proposing to allow fleets to use to indicate how much -- how much their activity is down. Revenues would be another, employment. So there's a lot of I think business indicators that aren't -- certainly aren't as accurate as having hour meters on each vehicle, but will give us an indication -- we should get a pretty good indication of how fleets are responding and how activity has decreased because of the recession.

CHAIRPERSON NICHOLS: Yes, Mayor Loveridge.

BOARD MEMBER LOVERIDGE: Two kind of questions. One, if you could comment on the South Coast points. And then, second, it was the PM deadlines, the difference between small, medium, and large fleets and what the premise is of the staff.

HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF WHITE: Well, let me -- I'll address the first, which is
the comments from the South Coast and Mr. Hogo about a sunset on the retirement credits. And as we looked at the legislation, we looked at the proposed amendments, one reason we did not opt to include a sunset of that is in great deal due to the letter we got from the Legislature clarifying their intent on the legislation. And one of those was to develop that credit consistent with -- as an extension of, if you will, the existing retirement credit that is already in the regulation which does not have a sunset on it. And as we looked at the potential disbenefits of that, one thing I think we all need to keep in mind is that as these vehicles are sold out of a fleet and times improve, the vehicles that are going to replace those sold vehicles beginning in March of next year have to meet a Tier 2 emission standard. So what we're going to see is older Tier 0 equipment move out of a particular fleet and get replaced with cleaner today Tier 1 and next year Tier 2 vehicles, which are going to be significantly cleaner. So we felt that the need to sunset that didn't exist in the same way it did for the retirement credit, which the legislation said that, you know, needed to include a sunset. And we agreed with that.

In regards to continuing to monitor the use of
the credits - I think we fully agree with that - intend to
monitor how those credits are used in conjunction with how
we're looking at what is the impact on emissions and how
are fleets complying, and, as I think I've heard the Board
mention a couple of times, if needed, certainly report
back on what our findings are.

CHAIRPERSON NICHOLS: Other questions?
BOARD MEMBER LOVERIDGE: PM for --
HEAVY-DUTY DIESEL IN-USE STRATEGIES BRANCH CHIEF
WHITE: Oh, I'm sorry.
And the second question you had, Mayor Loveridge,
was in regards to the double credit. And one reason we
didn't extend that beyond March 1st of 2010 was that,
while I think there are a significant majority and
probably the vast majority of fleets are experiencing a
downturn, not all fleets are. We have spoken with a
number of fleets that have continued to remain profitable.
And the concern we would have is that we would be giving
double credit to fleets for taking actions to meet the
basic requirements of the regulation.
So we opted not to propose to extend that for the
larger fleets beyond what the Board's already approved.
But because the small and medium fleets have compliance
dates that are further out, we wanted to see what we could
do to maybe get those fleets to take some early actions.
And so we believe that by extending the deadline, we're not going to have any long-term emission disbenefits but we hopefully will have some short-term emission benefits from that.

CHAIRPERSON NICHOLS: Okay. Yes.

BOARD MEMBER ROBERTS: We've heard so many things.

First of all, I want to compliment staff. I think that they're doing a really -- a great job on this. The use and misuse of language has been such a part of this, and it seems like all day.

The emissions in the air in California are down significantly. Okay? Now, it hasn't necessarily been caused by our action. That's a reality. The emissions are down. That's what the Legislature has understood, I think. And so we've got to do something.

There's been an economic train wreck, not here in California only but all over. And because of that, not because of any air board regulations. So the emissions are down. If you take any projection that I've ever seen over the last several years in what we were anticipating for emissions, they're down. They're down across the board in probably every category we measure. I know that they're down with vehicle miles traveled, they're down with every kind of business that's out there. And that's
the reality.

And to talk about we're losing benefits -- I understand how we get to that term. But the reality is everything we projected, we're down, not because of our own actions but because of external forces. And I think what staff is crafting here is a good solution.

And some of you know I have asthma. And I've made this a case in point. I don't want to compromise on any of those things. That's why we're retrofitting the buses. That's why San Diego County recently increased its fees, so that we would have more money to be able to supplement the money that we're getting and get more of these conversions, both in the private sector and in the public sector, made. So these things are incredibly important. But what we're seeing is a recommendation of a postponement based on the enormous reductions that are occurring because of the economy.

And I think staff's doing a good job.

The one thing that I guess concerns me, because we're living in such a troubled time -- and I want to have the best information -- I wonder if there's a way though that earlier in the year, at the beginning of the year we can kind of assess where we are, kind of take a look at the economy, and see at that point, not that we necessarily make any final changes, but at least position
ourselves -- if this economy is still seriously ill, that
we kind of look ahead.

I'm kind of worried about going through July of
next year and then, you know, with a whole series of
regulatory efforts underway. I'd like to look at it maybe
earlier in the year.

The best news I heard, one of the speakers said
that maybe we'll see, if not some upturn, at least the end
of the downturn by the -- you know, sometime next year.
And I certainly hope that's the case. And we're doing
everything possible here to see that that's exactly what
happens.

But I think we'll have a more complete picture of
all of these things, as you've suggested, by I think it
was July of 2010. But I wonder if we could just schedule
a premature meeting earlier in 2010, and at the very
earliest point, just to kind of look at where we're
projecting we're going and what the economy's doing at
that time, because this is so severe. I'm hopeful the
program you're putting forth is going to be efficient and
effective.

CHAIRPERSON NICHOLS: Yeah.

BOARD MEMBER ROBERTS: And I'm hoping things
don't get worse than we think they are.

CHAIRPERSON NICHOLS: While staff is conferring,
I'm going to interpret your comments here as a motion for the -- that we consider the resolution and ask for a second.

Do I have a second here?

BOARD MEMBER RIORDAN: Second.

CHAIRPERSON NICHOLS: All right. So we're now moving towards a conclusion here. And this would be an amendment that would deal with a date for reporting back. Actually as the rule exists now, it requires an October report. The staff was asking for an amendment to move this off till next spring when they feel they'll have all the data in on what's actually happening and will be able to give us a good analysis of it.

But I think what you're hearing is just enough concern about this -- I'm not sure frankly what we would -- I mean without good data, just knowing that the economy continues to be lousy, I don't know what we would do at that point. We'd still be waiting for, you know --

BOARD MEMBER ROBERTS: Well, the best data will be coming. But I think we'll even have more information -- a lot more information than we do right now. And I don't know that that would --

CHAIRPERSON NICHOLS: That's true.

BOARD MEMBER ROBERTS: I think it would give us an earlier warning, you know. I guess I want to get a few
more canaries in here with us that we can see so we don't wait for a catastrophe and then learn about it.

BOARD MEMBER RIORDAN: Would you not though have some indication by, say, January of what's happening with the equipment? You're going to get a trend. You've got an implementation committee that's going to be able to help you give you some trends.

You'll also know whether or not your stimulus money is finally getting back to governments for projects that are ready to go. To my knowledge, and not as a current supervisor but as a former supervisor, some items are ready to go if the monies flow.

But I don't know that the money has come in to these governments to allow them to move those projects forward. But by then, by January, we certainly would have some preliminary ideas of where that government is.

MOBILE SOURCE CONTROL DIVISION CHIEF CROSS:

We can do it, Yeah.

This is Bob Cross.

We can do it. I think the quality of the information is proportional to time in this case. But I think we can certainly give you the best that's available at that time and say it's getting a lot worse or it's the same or it's getting better. And then that would be an indicator on whether or not, you know, we need to --
CHAIRPERSON NICHOLS: I'd like to see a report to the Board. I'm not sure that --

MOBILE SOURCE CONTROL DIVISION CHIEF CROSS:
Well, we have the truck rule going. Well, that's December. Is that too early for us? You want to --

EXECUTIVE OFFICER GOLDSTENE: We can give an update with whatever data we have when we come to the Board in December.

CHAIRPERSON NICHOLS: We'll do an update in December.

EXECUTIVE OFFICER GOLDSTENE: So you can just -- as we get the data, we'll give you what we have. You know, it won't be as good as Bob said. But we can at least show you the trending.

CHAIRPERSON NICHOLS: Yes.

But we should leave the July Board hearing time. We want to give that time reserved on the schedule for a further -- a fuller discussion.

BOARD MEMBER ROBERTS: That was my intention.

CHAIRPERSON NICHOLS: Okay.

All right. Subject to that understanding --

BOARD MEMBER RIORDAN: Second.

CHAIRPERSON NICHOLS: -- we've got the motion and the second.

All in favor please indicate by saying aye.
(Ayes.)
CHAIRPERSON NICHOLS: Any noes?
Any abstentions?
Okay. Thank you. Thank you very much.
I think we're scheduled to take a lunch break.
EXECUTIVE OFFICER GOLDSTENE: Madam Chairman, I just want to clarify something, that that motion also included your change in language?
CHAIRPERSON NICHOLS: Yes, it did. Yes, it did.
EXECUTIVE OFFICER GOLDSTENE: Your "infeasible" from "impossible".
CHAIRPERSON NICHOLS: I was taking that as having been accepted without a formal vote, yeah.
All right. So we will take a lunch break.
Yes.
ASSISTANT CHIEF COUNSEL JENNE: I also wanted to mention: Have there been any ex parte communications that the Board wants to declare?
CHAIRPERSON NICHOLS: We failed to formally disclose any -- does anybody have any ex parte communications to disclose?
They do not.
ASSISTANT CHIEF COUNSEL JENNE: Okay. And I also wanted to clarify that the record will be closed now, but it will be reopened for a 15-day comment period based on
the changes that the Board has directed.

CHAIRPERSON NICHOLS: Correct. Thank you.

All right. We will resume at - 1:15? - at 1:15 then.

Thanks, everybody.

(Thereupon a lunch break was taken.)
AFTERNOON SESSION

CHAIRPERSON NICHOLS: We will now resume our meeting with the consideration of a status report on the Zero-Emission Bus Regulation. And we'll turn to staff on this one.

EXECUTIVE OFFICER GOLDSTENE: Thank you, Chairman Nichols.

In response to the Board's direction, staff has monitored the demonstration projects of Zero-Emission Bus technology in California and around the world and will present a summary today of our findings.

Based on the results of California's demonstration, staff will offer recommendations on implementation of the new bus purchase policy and introduce a broader goal of reducing greenhouse gas emissions.

Mr. Craig Duehring of the Mobile Source Control Division will present staff's presentation.

Craig.

(Thereupon an overhead presentation was Presented as follows.)

MR. DUEHRING: Thank you, Mr. Goldstene. And good afternoon, Chairman Nichols, members of the Board, ladies and gentlemen.

We are here today to provide a status report on
implementing the Zero-Emission Bus purchase requirement.

MR. DUEHRING: I begin with a brief overview of the materials being presented today. First, I will provide a summary of the history of the ZBus regulation, and then discuss the current regulatory requirements as last modified in 2006.

Next, I will provide an assessment of the state of ZBus technology, discuss other efforts within California and abroad, and then outline staff's recommendation for future regulatory actions.

MR. DUEHRING: In February 2000, the Board acted to reduce emissions from public transportation by establishing a new fleet retrofit and modernization rule for transit agencies and more stringent emission standards for new urban bus engines and vehicles. Subsequently, California has seen lower NOx emissions and an 85 percent reduction in PM from transit buses.

Under the fleet rule, each transit agency was required to select a compliance path, either the diesel path or the alternative fuel path. The regulations also included requirements for transit agencies to demonstrate Zero-Emission Buses with the goal of developing zero emission transit fleets.
A ZBus is defined as producing zero exhaust emissions of any criteria or precursor pollutants under any and all possible operating modes and climates. Buses that meet these requirements include battery electric buses, electric trolley buses with overhead twin wire power supply, and hydrogen fuel cell buses.

The ZBus regulation contains three elements:

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MR. DUEHRING: First, diesel path transit agencies are required to initiate a ZBus demonstration. Second, 15 percent of new bus purchases are required to be ZBuses; and Third, only large transit agencies whose fleet size exceeds 200 urban buses are affected.

There are currently ten transit agencies whose fleet size exceeds 200 buses. They range from L.A. Metro, with almost 2700 buses, to Golden Gate Transit, with 209 buses. The transit agencies affected by the ZBus regulation operate 6,800 urban buses, which represents about half of the statewide urban bus population.

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MR. DUEHRING: The current regulation has been modified twice because ZBus technology, in particular fuel cell buses, was still in development, and as a result costs were too high.
The first modification delayed the initial demonstration. The most recent modifications approved by the Board in 2006 included a delay in the ZBus purchase requirement to 2011 for diesel path agencies and 2012 for alternative fuel path agencies.

The Board also added an advanced or second phase demonstration for large transit agencies on the diesel path. The advanced demonstration requires a single transit agency to place in service 6 ZBuses or allows multiple transit agencies to participate jointly in demonstrating at least 12 ZBuses.

The Board also directed staff to assess the results of the second demonstration as well as other information and report back by July 2009 on the feasibility of implementing the purchase requirement. This is why we are here today.

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MR. DUEHRING: As required by the original ZBus regulation, diesel path transit agencies initiated two different ZBus demonstrations. Santa Clara Valley Transportation Authority in partnership with the San Mateo County Transit District initiated a three-bus demonstration in March of 2005. These buses used fuel cells as the sole input to the propulsion system and did not incorporate hybrid
technology or regenerative braking.

The Alameda-Contra Costa Transit District, in partnership with the Golden Gate Bridge, Highway and Transportation District, initiated a three-bus demonstration in March of 2006. Starting in November of 2007, the buses were subjected to accelerated testing, logging 16 to 19 hours of operation per day, seven days a week. Testing and evaluation continues today. The three buses used a hybrid fuel cell technology with battery storage and regenerative breaking capability. These buses continue to run on AC Transit's daily routes.

In addition, SunLine Transit Agency, a smaller agency not subject to the regulation, placed a hybrid fuel cell bus in operation in December of 2005. This bus uses the same ZBus technology as the AC Transit buses just mentioned and is still in operation today.

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MR. DUEHRING: The results from the three demonstrations appear to be consistent, with the only exception being fuel economy. The AC Transit and SunLine Transit fuel cell buses showed about twice the fuel economy of the VTA fuel cell buses and about twice that of an equivalent diesel bus.

The lower fuel economy experienced by the Santa Clara VTA was due to the design difference of the bus
which did not include the hybrid technology or regenerative braking.

In addition to fuel economy, reliability and bus availability are important performance metrics. The availability of a bus is measured by comparing the number of days the bus was scheduled to be in service with the number of days the bus was unavailable due to maintenance issues.

As you can see, the availability of the fuel cell bus is not as good as an equivalent diesel or natural gas bus, but is approaching the 85 percent target.

Reliability is a measure of the miles between propulsion-related road calls during regular service. As you can see, the reliability of a fuel cell bus is substantially lower than that of an equivalent diesel bus or natural gas bus.

The results of the initial demonstration illustrate the need for additional demonstrations to assess the reliability of the next generation of fuel cell bus technology.

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MR. DUEHRING: The 2006 modifications to the regulation required a second demonstration. As a result, a 12 ZBus demonstration was planned by a joint partnership of five Bay Area transit agencies and originally scheduled
to begin January 2009 with preliminary results expected for this report.

However, delays in securing funds and bus production have forced the demonstration timeline to slip. The first bus will not be delivered until late this year, and the twelfth arriving in July 2010.

This larger demonstration will provide an updated assessment of reliability, availability, and fleet integration with refueling infrastructure.

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MR. DUEHRING: Government agencies have funded about 54 percent of the total cost for bus acquisition and infrastructure development for the current demonstrations. California funded 14.3 million; another 6.3 million has come from the United States Federal Transit Administration; and 2 million was made available from the local air quality management district.

Additional government funds helping with the second phase demonstration include 7 million from California; 5.7 million from the Federal Transit Agency; and another 2 million from the local air quality management district.

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MR. DUEHRING: In addition to the phases of demonstrations required by the regulation, another
demonstration -- other demonstrations are taking place here in California. We already talked about the SunLine Transit demonstration. However, both the City of Burbank and Foothill Transit are scheduling ZBus demonstrations beginning early this year -- excuse me -- later this year.

Outside of California, South Carolina, and Connecticut are currently demonstrating ZBus technology. Connecticut will be placing in service an additional four ZBuses later this year.

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MR. DUEHRING: Subsequent efforts worldwide include demonstrations taking place in Japan, Germany, China, Brazil, Holland, Belgium, and Korea, with planned larger scale demonstrations coming to London, England; Vancouver, Canada; and Hamburg, Germany.

Of particular interest is the 20 ZBus demonstration occurring in Vancouver being implemented in coordination with the 2010 Winter Olympics.

Staff plans to gather performance and cost data from these efforts to further assess cost, availability, reliability, and durability improvements.

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MR. DUEHRING: The demonstrations to date have showed us that ZBus technology is still developing and costs remain high. Battery electric buses cost
approximately 1.2 million and fuel cell buses cost
approximately 2.2 million. When compared to a similar
diesel or CNG bus, ZBuses can cost three to six times
more. Add in the cost of infrastructure, the comparison
climbs even higher.

The first phase demonstrations have shown the
technology is still under development, and improvements in
reliability, durability, and costs are needed. Staff will
monitor and assess the results from the second phase
demonstration as well as other projects worldwide to
further evaluate technology readiness.

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MR. DUEHRING: Due to the delay in implementing
the second phase demonstration and resultant lack of data
demonstrating commercial feasibility, staff recommends
delaying the ZBus purchase requirement. Staff also
recommends continuing the second evaluation in the Bay
Area, which begins at the end of this year, to provide
information that can be used to assess when the purchase
requirement should begin.

In addition, staff recommends establishing in
regulation predetermined performance metrics that will
serve to trigger the mandatory purchase requirements.

And, lastly, staff is suggesting that it develop
a longer term concept that broadens the requirements to
reduce transit greenhouse gas emissions while
incentivizing innovation and increasing transit ridership.

Next, I will provide more information on each of
these recommendations.

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MR. DUEHRING: The first recommendation is to
delay the purchase requirement. Staff is recommending a
delay in the purchase requirement for the following
reasons:

Initial demonstration results show promise, but
did not achieve the durability or reliability numbers
desired.

Problems in securing funds and acquiring buses
have delayed the second phase demonstration; therefore no
additional demonstration data are available to assess the
latest ZBus technology advancements.

Finally, ZBus technology and infrastructure costs
are still too high.

For all these reasons staff suggests that the
2011 and 2012 purchase requirement should not be
implemented as scheduled.

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MR. DUEHRING: Staff believes that continuation
of the second phase demonstration in the Bay Area is
needed to provide the data necessary to assess the
reliability, availability, durability, cost and commercial
readiness of the latest generation of ZBus technology.

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MR. DUEHRING: In 2006, through Resolution 06-28,
the Board directed staff to consider the following
criteria while assessing the technology readiness for
commercialization:

The 2006 criteria are listed in the second
column. And the current state of technology is listed in
the last column. The purchase cost of a fuel cell bus was
to be no more than 1.25 times that of an electric trolley
bus.

The warranty of the fuel cell stack was to last
at least 20,000 hours, which is equivalent to
approximately 240,000 miles on a diesel or CNG bus.
Current diesel or natural gas buses get a factory warranty
of about 300,000 miles.

The reliability, determined by the number of
miles between propulsion road calls, was to be no less
than 10,000 miles, which is approximately what a diesel or
CNG bus can attain today.

Availability was not mentioned in the 2006
resolution but was measured during the first phase
demonstrations based on an industry standard of 85
percent.
Staff recommends that performance parameters like these be placed in the regulation to serve as a trigger for determining the commercial readiness of the technology and implementation of the purchase requirement.

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MR. DUEHRING: As a final recommendation, staff sees value in adding greenhouse gas reduction as a goal of the ZBus regulation. Implementation of the Transit Fleet Rule has been successful in reducing NOx and PM emissions from transit buses. Emissions of PM and NOx from new buses have been reduced over 90 percent. And the legacy fleets of buses is nearing completion of its cleanup.

At this time, the most important value in continuing the ZBus requirement is to achieve significant reductions in greenhouse gas emissions from transit, as we have started to do for passenger vehicles and heavy trucks.

To implement the recommendation, staff would like to work with transit agencies to establish an appropriate greenhouse gas goal for transit. This could take the form of a declining cap on transit emissions. Such a cap could take into consideration the positive benefits of increased ridership and use of advanced transit technologies such as light rail and hybrid electric buses to reduce greenhouse gas emissions. This could also provide an incentive for
expanded transit, consistent with the goals of Senate Bill 375.

MR. DUEHRING: In summary, staff is requesting the Board's endorsement of its four recommendations. If you agree, the resolution will memorialize the Board's intent to change the regulation to delay the purchase requirement. This is important because transit bus purchases for delivery in 2011 are beginning now.

The Board's direction to continue the second demonstration in the Bay Area will allow staff to acquire data from this demonstration to help assess commercial readiness of ZBus technology.

Staff will also work with transit agencies to develop a set of performance and cost criteria that can be incorporated into regulation to serve as a trigger for the purchase requirement.

We would plan to return to the Board late next year with the proposed regulatory changes to formally delay the 2011 purchase requirement and incorporate the triggers, as well as provide early results from the second demonstration program.

We will also begin developing a greenhouse gas goal for transit and return to the Board with our recommendations at a later date.
This concludes staff's presentation.

CHAIRPERSON NICHOLS: Thank you.

I think we are going to be hearing some different discussion points coming from those who've signed up to speak. So why don't we just turn directly to them at this point. And then we'll have Board discussion later.

Beginning with Paul Jablonski and then James Gaspard.

We will keep our three-minute rule in effect though.

Thank you.

MR. JABLONSKI: Thank you.

My name is Paul Jablonski and I'm the Chief Executive Officer for the San Diego Metropolitan Transit System. And I welcome you all to San Diego, which now is a bright sunny day out there.

MTS provides rural, fixed route, paratransit, as well as light rail service to about 70 percent of San Diego County. Last year we carried close to 92,000,000 passengers. And that averages about 275,000 people a day on just under 700 buses and 134 rail cars.

Over the years as a partner with CARB, we have aggressively pursued clean fuel strategies for our fleet. Our rail system is obviously all electric. On the bus side, nearly 80 percent of our fixed route fleet is now...
powered by CNG. And by the end of this year, we will have an average fleet age of less than six years. And our paratransit fleet has been completely changed over from diesel to gasoline. And we've made all this through considerable investment in CNG and its infrastructure.

And now hybrid electric - we just added to our fleet a group of gasoline hybrid electric vehicles.

It has not come without a cost. Buses are anywhere from 75,000 to $150,000, an increase charge about 22, 23 percent increase.

We have already built four fueling stations for CNG. We will shortly start our fifth. And our last one cost close to $6 million.

I would like to thank CARB staff for the cooperation and the working relationship that we've had with them in order to try to achieve the fleet standards.

And in general we support the staff's recommendation for the ZBus purchase requirement.

The regulations -- the current regulations were intended to spur technology to a level that would permit its use in fixed route service. That level really has not been reached. Transit operators have no control over production and should not have to invest in technology that does not work in providing public transportation effectively.
What is currently being marketed unfortunately is not reliable, affordable or durable, and it's too costly to warrant experimentation at this time. We along with staff also suggest that additional demonstration projects should not be required at this time because they are financially burdensome. And the northern demonstration projects either have not come on line or are too new to gain additional information, and those should be allowed to mature.

Implementing the ZBus rule or requiring any additional mitigation efforts instead of it could have quantifiable and very severe financial impacts on transit agencies, especially at a time when transit funding at the state level has been totally decimated. For us, that would mean taking service off the street in order to implement this.

CHAIRPERSON NICHOLS: Mr. Jablonski, you've used up your three minutes.

MR. JABLONSKI: Okay. So in general, I ask you to consider staff's recommendation. And we look forward to continuing our working relationship with you and also implementing performance standards looking at this in the future and working with us as an industry to help develop those performance standards.

I also will leave with your clerk of the Board
some -- I understand that you're in town for today and
tomorrow -- some transit passes. Get out and try the
system over the next couple of days. You can go back to
the airport by a bus stop right out here on Harbor.
So thank you very much.
CHAIRPERSON NICHOLS: Thank you. Appreciate
that.
I don't know if we're allowed to accept free
transit passes. I guess it's not the same as gift of
transportation, right?
BOARD MEMBER ROBERTS: It does not exceed $5
dollars in value, I can assure --
CHAIRPERSON NICHOLS: All right. Very good.
(Laughter.)
BOARD MEMBER RIORDAN: And you could give it to
staff.
CHAIRPERSON NICHOLS: Well, thank you.
Okay. Mr. Gaspard and then Jim McElroy.
MR. GASPARD: I'm James Gaspard, Executive Vice
President, Design Line.
I just wanted to let the Board know that the
technology does exist for battery buses, okay, not the
fuel cell stuff. We are a manufacturer of buses, been
working in electric and in hybrids and in pure electric
for over 18 years. We deliver to six countries right now.
University of California at San Diego has bought two of our zero-emission buses for delivery next year. These are heavy-duty transit buses. They currently operate around the world, full shifts, heavy-duty cycles. They go out and come back, can be charged up.

So the technology does exist.

I understand the need for the delay. But I just want to say that CARB has always been looked at as the leader around the world. We sell around the world. I'm selling to a lot of countries around the world pure electric buses because of the leadership CARB has shown in having the manufacturers advance the technology.

We've got hundreds of millions of dollars worth of federal grants we're working with right now on electrification of transit buses because of our technology.

I just find it somewhat surprising after CARB has driven this around the world that now you're going to take a breather and sit on the sideline. I just hope that the break is not too long. And that's all.

But we do look forward to your leadership. In fact, currently I'm delivering buses to New York City and Baltimore, plug-in electric buses. And because of your leadership, people in the inner harbor in Baltimore, Manhattan, the Bronx, Brooklyn will be breathing cleaner...
air. And I just look forward to you reentering the game later.

And in all, I do want to commend staff. Staff was not aware of our product until about a month ago. We stay below the radar, and we just talk to select clients. We just didn't know we were so below the radar, nobody knew of us.

(Laughter.)

MR. GASPARD: But we have been around for a lot of years. We build the buses in the U.S., it's U.S. technology, and it's all U.S. jobs for foreign markets and the U.S.

Thank you.

CHAIRPERSON NICHOLS: Question for you. Hold on just a moment.

BOARD MEMBER RIORDAN: One quick question. What is the distance your buses can go on a charge?

MR. GASPARD: Currently in heavy-duty transit we're going between 90 and 120 miles a shift. And then you come back in for charging. Or you can do fast charging and stay out forever. We have an electric hybrid -- like New York City's got a plug-in hybrid. They'll run -- then they've got an on-board APU. They take less batteries. The buses are similar except our
1 battery bus has a lot more batteries. The electric hybrid
2 has fewer.
3
4 And we use advanced battery technologies, the
5 lithiums, the sodiums. And we give very long warranties.
6 Our Warranties far exceed your implementation goals.
7
8 Their buses will run over half the day zero
9 emission. In fact, in testing in Manhattan they're
10 running over half the day in zero emission. And now
11 they're going into service. And then when the batteries
12 go down, the little APU comes on, which meets CARB
13 standards. They didn't even ask if we met EPA. They
14 said, "Do you meet CARB?" And then it comes on, charges
15 the batteries, goes off again.
16
17 BOARD MEMBER RIORDAN: Thank you very much.
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19 MR. GASPARD: Thank you.
20
21 CHAIRPERSON NICHOLS: Thank you.
22
23 Steven Miller.
24
25 I'm sorry. Jim McElroy, followed by Steven
26
27 Miller.
28
29 MR. McELROY: We don't look at all alike.
30
31 CHAIRPERSON NICHOLS: No, not a bit, not a bit.
32
33 MR. McELROY: Chair Nichols, ARB Board. Thank
34 you for letting me speak today.
35
36 I'm going to really keep it brief, because I
37 think your staff has just done an outstanding job in
working with us, and particularly over the last two years. And I want to thank your staff.

And I want to thank our members. We represent 80 of the major transit systems in California. Many of them are represented here today. And we'd like to think we've helped coordinate -- as an association, helped coordinate the discussion with ARB staff and with you, the Board, and with our members.

And I think -- again, I really just want to thank the staff, your staff, and our members for really, really working together to try to make this the best decision possible.

So thank you very much.

CHAIRPERSON NICHOLS: Appreciate that very much.

Mr. Miller.

If people want to just come in and thank us, we can extend their time, you know.

(Laughter.)

CHAIRPERSON NICHOLS: We could find a way to do that.

MR. MILLER: Good afternoon, Madam Chair, Board members, ARB staff. My name is Steven Miller. I'm the Superintendent of Bus Maintenance for the Golden Gate Bridge Highway & Transportation District in San Rafael, California.
Before I get to my remarks I'd just like to make a few quick observations. For one, I'm always extremely proud and always leap at the opportunity to discuss with anyone the tremendous strides we've made in reducing the tailpipe emissions from our buses. I think when we look back over the last ten years or so, it's absolutely remarkable the amount of progress we made in such a very short time.

Just to give credit where credit is due. It is the ARB Board members and staff that have provided the leadership, the motivation and much of the resources for us to get there. So thank you.

I'm also highly motivated to make zero emission buses a reality. I'm a firm believer that the internal combustion engine is something that has outlived its usefulness to us, at least in the context of public transit.

As we move forward today though in considering staff recommendations, I would like you to be very mindful of the reliability component of the staff's recommendation. That's a bit of a self-serving statement, because I'm one of the guys who gets the phone call when the bus is dead along the road.

You know, it's no secret that reliability is a very necessary attribute of a successful transit system.
There's a lot of things that can make it unreliable - bad scheduling, poor dispatching, vehicle availability. But I think reliability is the number one, at least in my eyes. And the reason for that is, if people cue up for a bus that doesn't show up, they often get angry and maybe they wait for the next scheduled run or maybe they go get in their car and drive to work or wherever they're going. When the bus shows up and they get on that bus and then it dies on the highway, you've got an entirely another situation on your hands. Hopefully it's not in the HOV lane of a busy freeway, because then you're potentially placing life and limb at risk.

So that's why I'd like you to pay particular attention to, you know, reliability as we move forward and craft the regulation.

Just to close. At Golden Gate Transit a majority of our riders are riders of choice. And that's why I wanted to speak to you today about reliability, because those riders of choice make a decision every day to get on our buses. So we don't want to move in a direction that causes them to change that decision every day, because I think we are doing a lot of good and we don't want to move backwards.

But on the same token, I'm extremely excited about our 12-bus ZBus demonstration. I think we're going
to get fantastic results. I see great news every day coming from that program.

I'm very excited about some of the other ZBus demonstrations coming on line such as Foothill Transit. That's fantastic.

So I think the Board is taking and staff are taking the right approach here. And let's wait and see what the results are, and then we'll move forward.

I assure you that me and my staff will do everything possible to make ZEBs work and we'll get there.

Thank you very much.

CHAIRPERSON NICHOLS: Thank you very much.

Appreciate your leadership on these issues.

Gene Walker, followed by Durand Ral.

MR. WALKER: Madam Chair, Board members and staff. Thank you for having this hearing today, give me an opportunity to speak. I'm Gene Walker. I'm the Director of Maintenance for Golden Gate Transit, which is the Bus Division of the Golden Gate Bridge Highway & Transportation District.

I am also, and have been for many years, our transit partner with AC Transit in original ZEB bus demonstrations. Certainly that information and data we found from the original ZEB bus has been moved forward now into the ZEBA, the Zero Emission Bay Area. The first
trials of the ZEB bus found that the design of choice was really a hybrid rather than a fuel cell driving electric motor for a motivation device.

So we are looking at gaining more data and more information from the ZEBA demonstration -- advanced demonstration to be able to move forward with implementation and reliability.

Reliability is very important. Cost is very important.

Reliability for Golden Gate Transit. We have transit service that's 68 miles in one direction, 40 miles in another direction, east and west, north and south. The potential for passengers alongside the road is never a good thing with a broken down bus. People out in commute traffic trying to get on the other bus is an unsafe situation. So reliability is always very important to us.

We also look at not excluding other near zero or other zero technologies. We think that those should be embraced. Those that are on the drawing board certainly should have a chance to be a new burgeoning technology.

We also understand that these aren't socks. One size does not fit all. So maybe for Golden Gate Transit, AC and some in the Bay Area, the zero emission bus, ZEB, may be the ticket. Maybe in other transit operations an all-electric or a combination of electric hybrid or
something that charges alongside the road is another opportunity for that technology.

Like I say, one size does not fit all.

But I would be certainly in error if I did not thank the staff for all of their leadership and hard work doing these work stations -- pardon me -- workshops, and certainly crafting this report and their recommendations.

Our relationship goes back a long ways. We have a relationship of mutual respect and trust to where we can work together in our common goal of reducing emissions from public transit.

And, again, I want to take an opportunity to applaud your staff. They do a very good job.

So thank you.

CHAIRPERSON NICHOLS: Appreciate that.

All right. Mr. Ral, followed by Lynn Devine.

MR. RAL: Thank you, Madam Chair and members of the Board. I appreciate the opportunity to come here today. My name is Durand Ral. I'm the Chief Executive Officer of our transit system in San Bernardino, California, and we serve the valley of San Bernardino.

A few things we -- and I too want to thank staff. It's been great working with staff, and certainly much different than in the past. It's been a much better relationship. We're more focused towards objectives. And
that's been going very well, and we really appreciate their cooperation, their help through this process.

Alternate fuels is not a new thing to me. I think my first alternate fuel demonstration project was in the mid-eighties when I served at the system in Riverside.

Mayor, good afternoon.

And that was a methanol demonstration program.

And we went from there.

And then in San Bernardino we started the compressed natural gas. We have finished our first life cycle of CNG buses. We just received 27 new buses, and they are replacing our first CNG buses. So we have been on the natural gas path for quite sometime.

We fought the cost issues and all of the things we're talking about now, with zero emission buses and hydrogen fuel cells, when we did the CNG buses. And we've learned that there is a cost to technology, there's also a benefit, and that cost-benefit has to be weighed against each other. And I think in our case now we find that that has happened. It's taken us 12 years to get to that point. And it's almost going to take us that long probably with fuel cell.

The difference in today's world is our economic situation has substantially changed. And you've heard that from the construction industry earlier today and
you'll probably hear it from us.

Not to beat that point, but I would feel remiss
if I did not say that that is an issue that we have to
consider going forward with this project.

Other than that, we strongly supported our
facility, Clean Air. I have -- my board members who serve
on the Air Quality Management District in the South Coast
that serve on my board of directors. So we have some
commonality in our upper leadership and elected officials
to make this happen as well.

So we're proud to be part of this process. We
just really need again to reemphasize reliability and
sustainability of service. It is not acceptable for us to
put a bus out on the street that can't stay out there a
full shift and meet the objectives of performance that it
has to do in order to meet the requirements of our riding
public.

So I thank you very much for your time. I hope
you would consider very seriously the recommendations made
by your staff to implement this new procedure. And we are
behind your staff, we're behind you in your efforts to
meet your objectives in this program.

Thank you.

CHAIRPERSON NICHOLS: Thank you very much, sir.

Lynn Devine, followed by Bob Leiter.
MS. DEVINE: Good afternoon. My name is Lynn Devine. I'm testifying again on behalf of the American Lung Association of California in support of the zero emission bus regulation and to stress the importance of ongoing work to demonstrate and deploy zero emission bus technology.

The American Lung Association believes this regulation is an important strategy for advancing the cleanest transportation technologies, while reducing both air pollutants and greenhouse gases.

We appreciate the staff's work in conducting a review of the program and we do support the key recommendation to delay purchase requirements while maintaining progress on demonstration programs.

We recognize that a delay is needed to address the higher than expected costs, especially in light of the difficult financial situations of many transit agencies.

We agree with staff that the delay will be helpful in collecting additional data on the ZBuses, and are encouraged that several demonstration projects are planned in the next few years within and outside of California that will produce new data.

As we heard, dozens of new ZBuses will soon be deployed around the world. By reviewing the information learned from deployment of ZBuses around the globe, we can
get a much clearer view of this technology and prepare for ramping up California ZBus procurement and use. While we appreciate the need for delaying the purchase requirement, we think there should be further discussion of setting performance triggers in regulation before adopting this approach. Setting technology performance triggers establishes a precedent, and the implications for technology advancement should be carefully considered.

In addition, there are operational and maintenance factors that impact the performance of ZBuses that also need to be taken into consideration, as these factors are largely under the control of bus operators. Again, we appreciate the staff's work and the need for some delay in purchase requirements, but support moving forward on this important program. Once fully implemented, the ZBus program will contribute to improved public health and greater interest in and use of clean, quiet, and reliable transportation.

Thank you.

CHAIRPERSON NICHOLS: Thank you very much for your continued involvement in this program.

Mr. Leiter, followed by Dana Lee.

MR. LEITER: Thank you, Madam Chair and members of the Board. I'm Bob Leiter. I'm the Director of
Planning for San Diego Association of Governments.

And as you're all aware, SANDAG is the first metropolitan planning organization in the state that will be preparing its next regional transportation plan in conformance with the provisions of SB 375.

And I want to take this opportunity to thank Lynn Terry and the staff that have been working with SANDAG and with the Regional Targets Advisory Committee to develop recommendations on the methodology for setting targets and, in that process, to identify some of the leading measures that we are going to be looking at in our RTP to address greenhouse gas emissions. I think we're making really good progress, and I look forward to continuing to work with your Board and your staff as we move forward on that.

We support the points made by the Metropolitan Transit System, and would like to add some additional thoughts related to the development of our bus rapid transit and arterial rapid bus projects.

We think that one of the main strategies that you're going to be seeing in regional transportation plans pursuant to SB 375 is the greater deployment of public transit throughout urban areas to reduce vehicle miles traveled. And what we've learned about public transit, our past successes with rail and commuter bus service show
that people will use transit if it provides the kind of
customer experience that's an attractive alternative to
driving your car.

And SANDAG has several freeway bus rapid transit
and arterial rapid bus projects that we're currently
developing that will be implemented over the next two to
four years. These projects are being designed as higher
speed rail-like services that will incorporate a number of
passenger amenities that are designed to tap new ridership
markets. Matching the right type of vehicle to the
service being operated is one of the key elements of bus
rapid transit and arterial rapid bus experience.

Having the flexibility to choose from a wide
range of vehicles is necessary to ensure that the vehicle
has adequate seating capacity, has the right suspension
systems, provide comfort and interior design features
aimed at commuters.

If we do this right, we're going to attract new
riders, what we call choice riders. If we don't do it
right, we will continue to have difficulty in attracting
those kinds of riders. And we've done a lot of research
on this and we've tapped into a lot of research on what
makes various types of transit work. And we continue to
refine that, and we'd certainly like to share that with
your staff.
So bottom line is that while we think the goal of reducing emissions in bus vehicles is an important one, we think it needs to be balanced with the ability to ensure the range of vehicle types that are available so that we can match the right vehicles with the right services that we're offering.

And we would welcome the opportunity to work with your staff and your Board as we're developing our regional transportation plan and as you're developing your strategies to share our research. And we certainly look forward to continuing our partnership.

Thank you.

CHAIRPERSON NICHOLS: Thank you. I know I speak for all of us when I say we do too.

MR. LEITER: Thank you.

CHAIRPERSON NICHOLS: All right. Dana Lee and then Joshua Goldman.

MS. LEE: Good afternoon, Madam Chair, members of the Board. My name's Dana Lee and I'm with Long Beach Transit. Long Beach Transit is a medium-size transit agency. We serve 96 square miles with 28 million customers a year. We have 246 buses, shuttles, vans, and boats.

We absolutely share CARB's goals for reduced emissions and improved air quality. In fact, we've been
one of the pioneering agencies for new technology. As an example, we recently replaced 87 of our aging diesel 40-foot buses with hybrid gasoline electric buses, making for almost 46 percent of our 40-foot bus fleet hybrid gasoline electric. And our customers are really pleased with these. And we're happy to be doing something to improve the air quality.

We've invested a premium of over $16 million dollars for this new technology to purchase, maintain and develop training for these vehicles.

We absolutely support staff's recommendation to defer the purchase requirement. We believe that technology's not ready yet for the rigorous needs of daily transit operation. And also the costs of the vehicles are extremely prohibitive now. We've suffered the last several years some dire times with our state transit funding, culminating particularly with this year where state transit assistance was eliminated. And that makes for a difficult time for us to invest in new technology when many of our agencies are facing drastic service cuts, layoffs, and fare increases.

We support the addition of reasonable performance measurements into the rule and look forward to working with CARB staff on developing those.

I think of particular importance for Long Beach
Transit as a medium sized agency is to continue to consider us when the rule is triggered. For example, if an agency falls below the minimum bus threshold when the rule is triggered but then grows to become over it, there needs to be an adequate amount of time for an agency to kind of ramp up and invest in the technology and invest in the training to get up to speed to be able to handle the vehicles that we'll need to purchase.

We appreciate CARB staff's efforts to work with us, and we look forward to working together in the future on this rule.

Thank you very much.

CHAIRPERSON NICHOLS: Thanks.

Joshua Goldman and then Kenneth Stewart.

MR. GOLDMAN: Good afternoon. Thank you for the time.

I'm Joshua Goldman, Director of Business Development for Proterra and former gasoline hybrid and fuel cell engineer on many of the buses running here in the State.

Proterra's an emerging vehicle manufacturer. We were based in Golden, Colorado, with offices in San Jose and San Diego. And we are here ramping up for production to meet California's air emission bus needs.

We currently have three buses on order from
Foothill, with nine more coming down the road. And our intent upon 500 buses a year annually with a new production facility we're breaking ground on in order to meet 2011 and 2012 nationwide electric vehicle supply.

Our 35-foot composite body bus can drive 30 miles or one to two hours of urban transit bus service and recharge at the driver break point in under ten minutes. In other words all day bus service with zero emission technology at a fraction of the cost for fuel cell. But for those systems like Golden Gate Transit, that have longer range needs, we do have hydrogen fuel cell range extension.

This technology is emerging. We're coming to the point now we're moving from demonstration to pilot programs and into production. And the work we are all working here in order to commercialize this technology is important not just from demonstration purposes, but for companies like us to gear up to full scale manufacturer.

And I hope that as you revise these rules and you look yes in the delay, we understand the need for the delay given the infancy of this system. But we also say that a much longer delay will cause us a delay in production to meet the longer term high volume goals of these products.

So we look to move in demonstrations in multiple
cities, in multiple parts of the states during lessons exposed upon the vehicle application and on the infrastructure needs for these vehicles, both fast charge battery electric and hydrogen fuel cell, such that we can take this technology to meet the 15 percent rule and beyond. And the bottom line is this technology must be cost effective for it to be truly sustainable, both environmentally and economically. And with our technology, we're well on that way.

That $1.2 million bus is pricey, three times that of a diesel, given that it's such small volume. But when we reach a hundred buses, it drops 20 percent in cost. When we reach a thousand buses, similar to current CNG or diesel bus orders, the technology is now less than two times the cost of diesel. With a 12-year return on investment, given lower energy cost, that makes a lifetime cost less than any diesel or CNG bus.

So thank you for your time.

CHAIRPERSON NICHOLS: Thank you. Thank you for your work in this area.

Mr. Stewart and then Mike Hursh.

MR. STEWART: Good afternoon, Madam Chair, members of the Board. My name is Ken Stewart. I'm Vice President of Transportation at UTC Power. We make fuel cells.
We also have been powering the AC Transit and SunLine Transit bus programs over the last few years, in addition to programs in Washington DC, Spain, Italy, Belgium, and also my home town in Hartford, Connecticut. Over 320,000 miles on these buses and over 31,000 hours of operation.

Our position is that we believe that the existing zero emission bus regulation should be preserved but adjusted. And I would look to the Board and hoping that they would provide guidance in regards to clean technology, with continuity and certainty regarding these rules going forward.

Why fuel cells? You've heard quite a bit about it from the staff. I won't repeat it here. However, they are ultimately efficient zero on-board emissions. Driving and riding experience is vastly improved, so much so that we have 68, 66, 140 percent fuel efficiency improvement over other technologies.

Durability, we've seen a 300 percent improvement in our durability life. The most recent fuel cells that have been in operation with the demonstration fleet, many of them have seen over 18 months of operation without ever having to touch the fuel cell.

Availability's been 95 percent on the fuel cell. For the bus itself, there have been varying
degrees of availability, much like what the staff has reported. But also we've seen recent data internally at UTC Power that indicates we've been running at 82 percent availability for the entire bus. And that too has been improving.

These are vital real-world feedback systems with the demonstration fleet. And I would ask the continued support for these ongoing demonstration fleets, because it gives us the feedback in order to improve in order to have a cost effective solution. For every bus that's in demo service today, it's the equivalent of taking 77 cars off the road in terms of nitrous oxides. Also, these buses will continue to provide feedback for our improvements.

We propose a timetable to adjust the regulations. Go to a year's worth of performance data on the next generation program that is beginning this fall. And then there'd be a sufficient opportunity for study to incorporate the learning at the end of 2010, and then time to procure a 5 percent amount in 2011, which is a different proposal than where the staff has been recommending. But we feel it is very advantageous in order to step from 5 percent and then to 15 percent. These buses would then be on the ground two years later in 2013, and then time to procure the second wave in 2013. And then the 15 percent fleet ZBus requirement on the
ground by 2015.

In short, the bus in Hartford runs at a 95 percent reduction in greenhouse gas emissions because it uses renewable hydrogen from Niagara Falls. That is the ultimate goal and that is achievable.

We look for clean technology with continuity and certainty as you consider your rule-making adjustments.

Thank you very much.

CHAIRPERSON NICHOLS: Thank you.

BOARD MEMBER SPERLING: Could I ask a question?

So UTC is one of the few major producers of fuel cells for buses in the world, right? I guess Daimler, Ballard --

MR. STEWART: I would like to think leading, but yes.

(Laughter.)

BOARD MEMBER SPERLING: All right. We'll go with that for now.

(Laughter.)

BOARD MEMBER SPERLING: Is there some step -- you know, as we're looking into the future here, is there some kind of step function in terms of your -- at least for your company in terms of the development of fuel cells, do you have another generation of fuel cells coming out at some point? Or can you give us some insight into the
timelines?

MR. STEWART: Well, I don't necessarily feel comfortable laying out our product plans. But I'd be glad to do that with you or any members of the Board in private.

However, I will say this, that we believe in this technology. We would like to continue to invest. We need a market. Because above and beyond UTC and our level of corporate investment we have a supply base. And they need to know that there's assurance of a marketplace that's coming so that they can invest in their technology.

It takes sometimes days to make parts today. If they were to invest a certain amount of manufacturing capital, they could do those parts in hours or perhaps minutes. That takes the cost down by tenfold, perhaps a hundredfold on some parts. But they need the assurance that it's worthy of their investment.

So the entire system needs that confidence. And that's where I think the Board's policy could play a significant role, is if there were certainty and continuity for the road map, even if it were postponed, but if we knew it was coming, then the entire supply chain would invest and we would see the cost reductions that we'd all like to see.

BOARD MEMBER SPERLING: Are these fuel cells
unique to buses or are -- are you just scaling them up?

Are they modular compared to like for cars?

MR. STEWART: I won't speak for other manufacturers. But in our case, it is purpose built for the bus.

BOARD MEMBER SPERLING: Thank you.

MR. STEWART: Thank you very much.

CHAIRPERSON NICHOLS: It is a chicken and egg problem, exactly.

Okay. So our next witness is Mike Hursh from Santa Clara and then Mr. Peeples from Alameda.

MR. HURSH: Thank you, Madam Chair. I'm Mike Hursh from Santa Clara Valley Transportation Authority. I'm very happy to be here to testify today.

I want to tell you that we support staff in delaying and redefining the zero emission rule. I do feel somewhat like a soldier called in from the front lines to report on a very difficult battle situation.

I need you to know that we are in the process of laying off -- furloughing, laying off 60 to 80 employees and reducing service by 8 percent. This is a direct result of the total elimination of State funding for transit and of course the difficult economic times that we're in.

The gap that we happen to be closing or the gap...
that we're attempting to close is $7 million. That happens to be the same portion of local Santa Clara County tax dollars that were spent on the first zero emission bus demonstration program that had a total cost of over $18 million for three buses.

To give the Board an understanding of the advanced demonstration that we're looking at right now, 12 buses, that project is in excess of $33 million. We could buy upwards of 50 2010 EPA-compliant hybrid buses. Somehow we've lost our vision. Public transit is the solution today. If the citizens of California, particularly the citizens of California would leave their car at home and switch to public transportation one day a week, we could eliminate gas -- we could reduce greenhouse emissions by 20 percent. Public transportation is the solution. Clearly we need new fuel technologies, we need new bus technologies. But this is being forced on our backs. And the result is that we're eliminating service. I advocate that the staff look at the total agency. VTA has a light rail system, yet we are compared to other agencies that operate only buses.

As you look at this rule, please consider the entire balance of the agency. We are quite proud of the reductions we've made in all of our emissions - water, electricity, solid waste. And please take that into
consideration. Look at the agency as a whole, not just
the type of bus that we operate.

I want to thank CARB staff. I also want to thank
CTA, who's been the referee to keep us together, to get us
to play nice. And we will not be underdone by the morning
staff.

I want to leave you with a Ralph Waldo Emerson
quote: "To live in the sunshine, to swim in the sea and
drink the wild air." I think we all can live by that.

Thank you very much.

CHAIRPERSON NICHOLS: Thank you. That's a good
quote.

Sorry. We have a question for the staff, not for
the witness. Okay.

BOARD MEMBER D'ADAMO: Just wondering if you
could put this into context, comparison of cost: Fuel
cell bus, hybrid bus, and just the standard EPA compliant.

MR. ACHTELIK: The cost -- Gerhard Achtelik with
the Air Resources Board. Sorry.

Since these are still demonstration buses still
in technology development, we did mention that the cost is
anywhere from -- I think it was three to six times
greater. So a standard diesel bus I believe is between
300,000 and 380,000. And then hybrid buses are around 500
and 600,000. And then these fuel cell buses are greater
than -- they're two million dollars, two and a quarter
million dollars. And then some of the other technologies
that were mentioned are around 1.2, $1.5 million dollars.
Electric trolleys are around $1 million.

BOARD MEMBER D'ADAMO: And then I think on, let's
see, slide 8 there's some information on -- well, actually
this is more based on an analysis of funding from various
agencies. But if we're looking at $2 million now, what
was the initial costs when these fuel cell buses came on
line as demonstration projects? Just trying to get a
sense of how far they've come down and how quickly.

MR. ACHTELIK: The initial demonstration -- the
first phase of the costs were between three and a quarter
and three and a half million dollars. So we've reduced by
about a third.

BOARD MEMBER D'ADAMO: Over what period of time?
MR. ACHTELIK: Over -- it would be the second
generation. But I guess it would be four years -- yeah,
three to four years.

BOARD MEMBER D'ADAMO: Okay.

CHAIRPERSON NICHOLS: Okay. Mr. Peeples.

MR. PEEPLES: Chair Nichols, members of the
Board. My name is Chris Peeples. I'm an elected-at-large
director of the Alameda-Contra Costa Transit District, AC
Transit, with 1.4 million constituents.
I'm here today to tell you a little bit about our history with this to support staff's recommendation and to give both my own and our staff's enthusiastic support for the advanced demonstration.

I have to say in my 48 years of involvement with fuel cells, they've come a long way. I saw my first PEM fuel cell in 1960 in my uncle's laboratory in Schenectady, New York, at G.E. where he was an investigator on the Gemini Fuel Cell Program for NASA.

In '99 we saw the Ballard P3 bus at a conference, borrowed it for a week or so, drove it around, decided that this was an interesting thing to look at.

After that, in 2000 we had the Mercedes ZBus for awhile.

Our partner SunLine gave us an older 30-foot Thor that had a 60 kilowatt UTC fuel cell in it. We drove that for a couple of years. And that led us into our current fleet of buses, which are integrated by an outside integrator. But Gronovld bodies, UTC fuel cells, Siemens drives. And those have made remarkable advances over the three years we've had them, largely credited to UTC and their constant work on it. They have a wonderful in-house engineer that's at our place that's talking to Connecticut three times a day. That it's made improvements in reliability, improvements in durability.
Jaimie Levin, who will be speaking also for AC Transit, will tell you some about the advanced demonstration. That bus is running around on the roads near the factory now. We should have it in September. They've managed to cut about a third of the price and three tons off the weight. That's in one generation.

I think this is a technology that can move along quite well. I know that from the shop floor up, the maintenance staff and everybody else are extremely proud to be working on this project and extremely enthusiastic. So my fellow board members were a little rocked by Secretary Chu, but we're working on that.

(Laughter.)

CHAIRPERSON NICHOLS: We all are.

MR. PEEPLES: Yes.

Other than Jaimie, I'm probably the most enthusiastic person in the room on fuel cells. But I acknowledge that this is not something that's ready to go tomorrow. Two point two million is pretty expensive for a bus. Reliability isn't there, the durability isn't there.

So I agree completely with your staff's recommendation. I disagree with my general manager, because I do think you should put a date on it. I think 2014's the appropriate date. I think you need to be prepared that that may push a little.
But I think with the 12-bus fleet in the Bay Area, you will get an ample amount of data that will be able to tell you down the road whether you really do want to impose a purchase requirement on all the transit agencies.

Thank you very much.

CHAIRPERSON NICHOLS: Thank you, sir.

Mr. Levin then. And the final witness is Glen Tepke.

MR. LEVIN: Madam Chair, members of the Board and staff. Jaimie Levin. I direct the Alternative Fuels Policy Program for AC Transit. And I am the big advocate for hydrogen fuel cells.

I don't think I have to tell this Board that we have a carbon emissions problem, we have a carbon dependency problem, and we have a challenge to become sustainable. And that's the vision which has driven AC Transit and our partners towards this new technology.

Granted, we're public transit agencies. We are bleeding lots of blood right now from the cuts in our budgets. But we have a future that depends on new technology that can make us more sustainable. And that's what drives us to continue what we feel has been very successful to date. Not without challenges. We have those to address and we are addressing them in this next
stage.

What makes us optimistic about this? Number 1, we've -- it's already been mentioned. We have over 182,000 miles of service on our buses. We carried half a million people -- over a half a million people. Who are those people? From Title 6 Environmental Justice neighborhoods. Urban transit -- it was already mentioned that over 6,000 buses of large fleets operate through the most densely populated areas on our planet. And the impact of those buses through those neighborhoods on frequent service, with respect to local criteria pollutants, with respect to noise, with respect to the overall environmental benefit within our communities is significant. And if we can address it, which we believe, with fuel cell technology, then that's the direction we need to continue.

I might add - I don't think this has been raised. But one of the biggest benefits that our public recognizes with this technology is noise reduction. In fact, it's so much of a reduction that we've gone out and we've purchased Tibetan bells from a local shop and welded them on to the front of the bus. And that's a benefit in favor of what we're doing.

It's already been mentioned that reliability is an issue. Our next generation buses, which we are very
excited about, Chris mentioned that we've reduced our weight by over three tons, so that they're only 2,000 pounds heavier than our diesel fleet. Even with the burden that we now have with the current fuel cell fleet, which is 8,000 pounds heavier, we're realizing almost 70 percent improvement in fuel economy.

So now we're coming out with a vehicle that's 6,000 pounds lighter. And our key goal is to improve reliability, to come back to this Board with the data that your excellent staff, from Tom Cackette to Gerhard to Anna to Craig -- we've been spending a considerable amount of time sharing our experience.

We see ourselves as a center of excellence. And clearly from a policy standpoint, this chicken and egg phenomena, how do we bridge the cost gap? Through a center of excellence and commitment to -- those of us who have a developed knowledge base, who have the experience, keep ramping up that effort. We're going from 3 to 12. We see ourselves hopefully going from 12 to 50. And that's how we're designing our stations.

And I know my time is out. There's a lot to say here. But the other side of this equation is not just on the vehicle side. It's on the fuel side. And our new fuel stations, which, thanks to CARB, will have a solar electrolysis component to drive our reductions down to
zero. And we will have a fast fuel component in order to show that we can demonstrate like operating conditions for -- that we experience with our diesel and CNG fleets. And we'll show scalability to go from 6 and 12 buses up to 50 and 100.

And I apologize for --

CHAIRPERSON NICHOLS: Thank you.

MR. LEVIN: -- taking the extra time.

CHAIRPERSON NICHOLS: No, you did a -- if you had taken a breath I would have cut you off.

(Laughter.)

MR. LEVIN: I have to live up to the reputation of our vice president.

CHAIRPERSON NICHOLS: We have a question here?

BOARD MEMBER D'ADAMO: Briefly. What --

(Laughter.)

BOARD MEMBER D'ADAMO: What improvements can be made on reliability?

MR. LEVIN: Well, our target is -- and I think this was mentioned with staff. We measure it two ways. One is availability for pullout in the morning. We live by the fact that when we have an a.m. pullout, any transit agency, we have to meet scheduled service. You as a passenger will not be a happy camper if -- whether it's a fuel cell bus or a diesel bus has to wait or misses your
trip to work.
So availability is number one. Standard for the
diesel industry or for any regular transit industry is 85
percent availability. Our numbers have been climbing.
Our biggest problem has not been the fuel cell
reliability; it's been the battery reliability. That's
where our real problem is. Our new buses are going to
feature a U.S. made EnerDel lithium ion battery. And our
current testing is really quite exciting. The proof in
the pudding of course is not what, one or two, three weeks
of testing or one year of operation. But it's multiyear
of operation.
The second measure for reliability is what we
call "miles between road calls." And you could see from
staff's report and from the -- and they get their data
from our NREL studies. We're very involved in data
collection so we can be credible. But it is a
considerable gap except for the fuel cell. It's close to
almost approaching 8,000 miles between road calls,
compared to our diesel fleet propulsion miles between road
calls of somewhere between 10 and 11,000.
So those are our objectives in this next stage.
I think we're at the end of the rope here. There's only
so much money we can get out of the state and out of our
funding parties unless we show evidence that there is
progress and potential with this. So we are really looking as our primary goal to bring that reliability very close to what our standard fleet requires.

And I know that was long answer, but...

CHAIRPERSON NICHOLS: Okay. Thank you.

Finally, Mr. Tepke.

MR. TEPKE: Thank you, and good afternoon. I'm Glen Tepke. I'm the Transit Capital Priorities Manager with the Metropolitan Transportation Commission in Oakland. MTC is the transportation planning, coordinating, and financing agency for the nine-county Bay Area. And we provide most of the funding that the Bay Area operators use to purchase buses. And that includes the 12 buses that are being procured for the advanced demonstration project.

So thank you for the opportunity to comment on the ZBus regulation.

MTC strongly supports the goals of the regulation to reduce emissions, including greenhouse gases, and to help the State meet its climate change goals.

Among other things, we've demonstrated that support by providing $26 million of the region's federal funds to support the advanced demonstration project.

MTC also supports the staff recommendation to amend the regulation to defer the purchase requirement and
to establish performance measures that would serve as
triggers for future implementation of the requirement.

The proposal to defer the purchase requirement
recognizes the reality that the ZEBs are still too costly
to implement at a large scale, and especially at a time
when transit budgets are under enormous stress due to the
economic downturn and state budget cuts.

In the Bay Area, the decline in sales tax revenue
and the complete elimination of state transit assistance
is going to translate into about a 10 percent reduction in
operating funds for the transit agencies. And as a
result, most of our agencies are either cutting service or
increasing fares.

And then on the capital side of the budget, in
our transportation plan we are projecting a $17 billion
shortfall in order to meet our transit capital replacement
and rehab needs over the next 25 years.

And in that context, the 26 million that I
mentioned that we have provided for the advanced
demonstration project are funds that otherwise would have
been available to meet other transit capital needs. These
are sort of general purpose funds. And that would also be
true if the purchase requirement were to be implemented.

So implementing the requirement in this
environment would place additional hardship on the transit
operators at a time when we really should be supporting transit as part of the solution to climate change and congestion.

So as the other speakers have said, deferring the purchase requirement would give us time to develop the data that we need to assess the durability and reliability. It would also give us time to -- for the operators to implement the fueling and maintenance facilities required. And as we're learning in the demonstration projects, that's one of the most challenging aspects of implementing hydrogen.

We support the concept of the performance thresholds and we look forward to working with your staff to revisit and revise the measures that were developed in 2006.

And I also want to thank your staff for all of the collaborative work that they've done to implement this project.

Thank you.
EXECUTIVE OFFICER GOLDSTEINE: Well, I'm going to ask Mr. Cackette to make a few closing remarks, that we make sure the Board understands what we're doing this afternoon.

CHAIRPERSON NICHOLS: Yes.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: This was a status report only. So even though we've talked about regulatory changes, it's not our intention -- well, we can't make any today, and it's not our intention to come back to the Board to make any that you may endorse until about a year from now. And during that time of course we would work with the transit agencies and other stakeholders to try to come up with exactly what performance criteria should be, how long the delay in the purchase requirement should be, what the mechanism is to trigger the delay, things like that.

The one important point though is that transit agencies are buying buses for delivery in 2011. And 2011 -- it's the delivery date that counts. So right now, under the rule, they should be buying these fuel cell buses. And for some of them that would be a very big purchase. And we agree, as they agree, that the technology's not quite ready for commercialization yet. So what we're relying on is that your resolution, if you agree with us, will say that it's the Board's intention to
delay this date. And we think that's enough in this narrow community to relieve the obligation on them until we can come back in the fall and actually make the regulatory change.

So that's kind of what our game plan here is. And if you -- what we're really asking for is your sort of endorsement in the resolution of this approach. And if that works, we'll be back to see you with the formal regulatory proposals in the year.

CHAIRPERSON NICHOLS: Okay. Well, I suggest that we don't need extensive discussion at this point about the details of how this would work, because you're going to be taking additional input from the industry and all others.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Right.

CHAIRPERSON NICHOLS: But there may be a few questions or comments.

Mr. Yeager.

BOARD MEMBER YEAGER: Yes, thank you.

I do have the pleasure of serving on the Metropolitan Transportation Commission and also on the VTA Board. So I understand a lot of the issues that were being discussed here. And I certainly am in favor of delaying the date.

And also looking at more of what we're talking about as far as expanding the ZBus goals to include
greenhouse gas reductions. And hopefully we can -- maybe you can sort of flush that out a little bit more for me and sort of where we're headed.

I think -- as we've heard, you know, we have real partners here with our transit agencies. I mean the whole idea is to get people out of the automobiles and on to the buses. And we've got to make sure that buses are there to be running and that they are reliable.

And I know a lot of agencies are trying a variety of other things. I mean certainly you're now purchasing the cleaner diesel buses with the EPA standards. And I was wondering how we're calculating that into their overall reductions.

And some agencies, as we have in the VTA, they do have electric trolleys as well as buses. And so as our taxpayers have been willing to increase their sales tax to go into trolley buses, how are they then also sort of being considered? Because, again, these are people who are really trying as hard as they can. They understand the impact. They want to get people into the buses. And I think whatever we can do to sort of help them and give them incentives will help all of us. And as we continue to have some of the issues that continue with the fuel cells, of making sure that we're not discouraging them to try other ways to reduce greenhouse gases.
CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Let me answer the last one, which is about the trolley buses -- the electric trolley buses. The regulation considered those as being zero emission buses. And, for example, Muni I think has essentially no obligation under this rule because they buy and operate a large number of electric buses.

And to the extent that battery buses come on board and can serve some -- probably not all but some of the transit needs, those count too. So that was envisioned originally.

BOARD MEMBER YEAGER: I should say, but there's still a problem if you're a fleet of over 200 and the requirement, depending on what happens here, is still 15 percent of that, that if you haven't reduced that and all you've done is expand your trolleys, you aren't really getting credit for that. You just aren't sort of expanding your bus fleet. Although hopefully you might be doing that as well.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, if you bought ten -- you know, ten new trolleys and that's all you bought, that would be ten ZEB buses you purchased, so you would far exceed the 15 percent requirement. That's why Muni doesn't have as much stake in this, because they're already electric.
BOARD MEMBER YEAGER: Okay. So with VTA, as we bring down BART to San Jose, that would also then be included?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Yeah. It would count, right. And so if they bought 15 percent, I guess, new trolleys compared to 85 percent diesels, that would put them into compliance too.

But going back to the original question. When this was adopted, it was adopted as part of trying to get the smog emissions from public transit towards zero, being that transit is often challenged and I think steps up due to the fact that they should be a leader in environmental control for transportation.

I think we've, you know, pretty much achieved much of that goal now. I mean we have -- diesel buses, like you mentioned, are 90, 95 percent cleaner than they used to be for both NOx and PM, at least starting in 2010 they will be. Oh, I think they are now actually. And they've met those tough standards ahead of the truck, for example, again showing the leadership.

But as we look at the shift towards emphasis on climate change, just like we've done for cars, we've got, you know, these very low emission cars out there now. And what we're doing is we're starting to add on goals and requirements for greenhouse gases from cars as well. And
we did that for trucks in -- at the end of last year, with all the farings and things like that.

So transit I think has to be -- is a sector that has to look at how do they get their greenhouse gas emissions down from where it is today.

And obviously another diesel bus replacing one that's already there, while it's cleaner from the smog standpoint, probably won't reduce greenhouse gases.

Natural gas burned the way it is today, in a very clean mode from a smog standpoint, gets you maybe 20 percent reduction in greenhouse gases.

And then the goal for cars, for trucks, and for most other sectors is 80 percent.

So we've got to look at for this sector a way of getting their greenhouse -- start getting their greenhouse gases on a path that could ultimately achieve, you know, something like an 80 percent reduction. And to do that, it's essential that we have technology that has less carbon coming out the tailpipe. But there's an advantage with transit in that they could do other things, which they do very well, which is, you know, encourage to get more people out of their cars and on to a transit, provide alternative means of transportation.

And then other technologies, like you said, they're spending a lot of money in many places on light
rail. And that should count in here and there should be incentives. You know, the rule ought to act as a positive for us to try to see transit take a bigger role in the greenhouse gas reduction program, which is, you know, now quite tied into SB 375 in terms of better land-use planning and how people are mobile within the community.

So I think that's what we tried to capture in this greenhouse gas goal. We're still going to have to push technology because we can't -- too much carbon coming out buses. But we -- if we could do that, we need to also try to figure out how it can benefit our transfer from just being car people and driving around 1.2 people in a car to using greater transit.

BOARD MEMBER YEAGER: Just my last point. I know that on the performance metrics that was outlined maybe there's also a need to include something about with price. And the question to -- Ms. D'Adamo's question about price. I mean, you know, we've got to get as many buses on the road, you know, the clean diesel buses on that road that we can. And so I would hope that that would be a consideration as well.

CHAIRPERSON NICHOLS: Okay. Supervisor Roberts, you had a question?

BOARD MEMBER ROBERTS: Yeah, I do have. First of all, I need to be very careful what I say because I don't
want a starring role in the movie "Who killed the electric bus?" as I have in an earlier movie --

CHAIRPERSON NICHOLS: I'd be more than happy to defer to you on that.

(Laughter.)

BOARD MEMBER ROBERTS: And I -- like Supervisor Yeager, I have some involvement with transit. I sit on the Board of Directors of the Metropolitan Transit System here as well as on the Transportation Committee for SANDAG. So we're working on AB 32 and SB 375 in all of these things. And we're trying to figure out what they all mean.

I guess I have a couple of questions. In our efforts, one of the things we're working on is a major expansion of our light rail system, which already proportionately is one of the -- probably one of the longest most anywhere in the State. The next expansion of that -- and we'll have the environmental work done probably by the beginning of this coming year -- it's going to be about a billion dollar expansion. Now, that's an all-electric system.

Like all the transit agencies that have been told by the State, "We want you to do a better job. And to help you we're going to cut all your funding," we're struggling with a lot of issues. Fortunately we have
because of voter initiatives about half the money for that line. And we're hopeful that the other half will come from the federal government. And to this day, meetings that I've had in Washington with them would indicate that that's highly probable.

But how do you -- how -- you know, what I've seen so far is a chart that says if you've got so many buses, you're going to have to have so many experiments. Is there a -- are you taking into consideration maybe that systems like this are going to be spending a lot of money on a lot of electrical -- other electrical stuff that in the long run's going to claim more passengers, more effective? I mean every index we have, it will outperform any of this stuff that we've seen, I can tell you.

You know, we heard a lot of people testify about all the wisdom of these fuel cells. And we know the range, we know performance, we know cost, we know reliability is all questionable at this point. So how do we -- how do you look at a transit agency and evaluate what are the efforts they're making that really help you in the greenhouse gases but aren't necessarily related to buses?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, that's exactly what we want to do in that final recommendation, which is come up with a greenhouse gas

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goal that incorporates these features. So --

BOARD MEMBER ROBERTS: And that's the performance
part of it that you're looking at?

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Well, no, beyond that. Actually come up with other incentives that would sort of level the playing field on a greenhouse gas basis. So, for example, we think that any transit system will have buses. You know, there's not going to be completely light rail.

BOARD MEMBER ROBERTS: There's no question about that.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: Yeah. So those buses need to be making some progress towards lowering their greenhouse gas emissions. If we don't, we'll never get any kind of significant reduction from that sector.

But if you look at -- you know, the way we have it now is, okay, you have to buy a bus. But what if I do a light rail? Well, we'd like to have some kind of system that says if you do light rail, that either you could get credit or get GHG reduction credit for the fact that light rail is more efficient than the bus perhaps, that it carries more people, that it offsets -- it grows ridership. And all of those things are good for greenhouse gas reduction. So by putting -- perhaps coming
up with something like a cap or a declining cap on transit emissions, you could do that. But you would build in the growth factor. So that when they do good, which is get people out of their cars, we would take credit for that and that would offset any need to do technology changes or things like that. And so there'd be a system-wide look at transit, which I think could end up being, you know, helping transit look more and more like it's providing the societal benefits that it needs to do, not just getting people out of their cars and to work, but also solving the greenhouse gas problem.

BOARD MEMBER ROBERTS: Okay. Well, that -- you know, I'm going to be interested in that.

You know, I heard a comment that, you know, we're writing out the -- writing off the internal combustion engine. And had we had the time yesterday, we would have looked at all the companies here and the stuff that's going on in San Diego with respect to development of algae fuels and other things. And I wouldn't write off the internal combustion engine so quick, because they could have a negative impact -- a negative footprint with respect to greenhouse gases and other things.

There's so many things going on right now that are going to affect us. I don't want to see us stack the deck in any way, shape, or form.
I made a prediction on who killed the electrical car, that hydrogen was the fuel of the future. I'm not as convinced of that today as I was ten years ago when we went through this exercise with respect to cars. But I think we have to -- if we keep in sight what we want, we want to lower emissions, we want to lower greenhouse gases, we want to have options that are cost effective as well as provide the performance that we need, you know, we'll do a far better job in the long run. It might not be that we're for such a sexy solution as hydrogen fuel cell.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: I think the one thing that some of these technologies have as well as the low emissions that will be essential for the future is that they're efficient. Fuel cells are very efficient. Electricity, electric motors for light rail are very, very efficient.

BOARD MEMBER ROBERTS: Cost efficient as well as performance efficient.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: They have to be cost.

BOARD MEMBER ROBERTS: Okay. Cost efficient.

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: But even when we look to algae and these other biofuel-type things, there's going to be a lot of demand for them.
There's going to be probably some limited supply. And if you put them in a normal combustion engine, you've got to put a lot more in because those engines aren't as efficient.

So the future for low carbon probably is some combination of these low carbon fuels, whether it be electricity or algae diesel or whatever, but also efficient use of those fuels. And that combination's I think what most people believe - and Dan can certainly -- or Professor Sperling can certainly say that because he's written books on it. But that's kind of the formula that most people see. So I think -- that's why we wanted to pursue both paths.

BOARD MEMBER ROBERTS: Well, and as you heard from Paul Jablonski, we have a -- I think maybe the only one in the country -- the CNG hybrid bus. And we're testing that and running that --

CHAIRPERSON NICHOLS: There's still -- we haven't heard the last from technology. But we're about to close this item off, because some of us -- (Laughter.)

BOARD MEMBER ROBERTS: Okay. I will be quiet for the rest of the afternoon.

CHAIRPERSON NICHOLS: -- some of us have airplanes to catch who don't get to live here in San
Diego. But that was a helpful conversation. And I would like to draw one conclusion from it, which is that, while I tend to be persuaded by Mr. Cackette's line of thinking about what the future is likely to look like, I'm also very mindful of the point that you just made, Supervisor Roberts, about the need to have performance-based approaches to these issues and to keep as much as possible to pushing on what we need to achieve and let technology guide us at the end of the day as to where we're actually going to get.

So I think those two things have to be kept both in mind at the same time.

Hearing no objection, I would like to assume that the Board is giving general direction along the lines of what the staff has indicated here, that is, we all I think are aware of the fact that it is not going to be possible to actually meet the deadlines that were originally in this -- planned for in the rule, that the staff will need to come back with some amendments. And we'd like you to keep in mind the other considerations that you've raised.

But I see people looking at me like they're really worried that I'm about to do something illegal.

EXECUTIVE OFFICER GOLDSTENE: There's a resolution to --
CHAIRPERSON NICHOLS: Yes, I know.

EXECUTIVE OFFICER GOLDSTENE: Oh, okay.

CHAIRPERSON NICHOLS: We have to actually act on
the resolution, I know, I know.

And before we act on the resolution, Mr. Jenne,
is there anything else we need to do?

ASSISTANT CHIEF COUNSEL JENNE: No, that’s what I
was going to mention.

(Laughter.)

CHAIRPERSON NICHOLS: Okay, good. I know you
were worried that we weren’t actually going to act on the
resolution.

BOARD MEMBER ROBERTS: I move approval of the
resolution.

BOARD MEMBER SPERLING: Second.

CHAIRPERSON NICHOLS: You’re moving the
resolution. We have for that a second.

Would all please signify by saying aye.

(Ayes.)

CHAIRPERSON NICHOLS: Opposed?

Okay.

There, the resolution is passed. Thank you.

Thank you for keeping us on the straight and
narrow path.

Okay. We do have a comment period, and we have
quite a number of people, unusually, who've signed up for this. And I think some of them are part of an organized group, but I don't think all of them are.

So my assumption is that Mr. Jefferds is not. Is that correct, Bill, that you're -- where are you, Bill Jefferds?

There you are.

You're first on the list. You're on your own; is that correct?

DR. JEFFERDS: Right.

CHAIRPERSON NICHOLS: Yes. Well, why don't you come up first then and give us your three minutes and then we'll hear from the others.

DR. JEFFERDS: Thank you, Madam Chair. I'm Bill Jefferds, the Executive Director for the Southwest Defense Alliance.

Our chairman right now is John McQuiston, who is the Chairman of the Board of Kern County Supervisors.

We've been in existence ten years. Our missions are to protect military range complexes in the southwest. We are a 501(c) of six states that have banded together to protect those military range complexes.

So we have a great deal of interest in the CARB and those issues that may make some problems for us as we go along. But we want to offer our services to work with
you as we come along with the issues that face that. We also met with the Board of Supervisors, Mr. Cox and Mr. Horn, looking at the possibility of them joining the Southwest Defense Alliance.

We appreciate being here today. I was a school superintendent for 19 years. It reminds me of old board meetings.

So thank you.

(Laughter.)

CHAIRPERSON NICHOLS: The reason I sounded so familiar when I called him is that I worked with General Jefferds when he was the military liaison in the Davis administration. And he did a super job of organizing a military base retention and reuse effort that we had underway in those days when they were going through a round of base closure efforts, you know, one of the periodic BRAC projects, helping the State agencies get to know the military base commanders and their issues and helping us to focus on what we needed to do to have an effective program to help California not just get rolled over in that process.

So it was a terrific job. I want to thank for that. Good to see you again.

Okay. Now, am I correct that the rest of you are more or less a part of a group?
MR. GUERRY: Yes.

CHAIRPERSON NICHOLS: Okay. Well, then you can just organize yourselves. And I guess you each --

MR. GUERRY: Thank you. Good afternoon. My name's Bill Guerry. I appreciate the opportunity to speak with you late in the day. I'm an environmental lawyer from Washington DC with the national law firm, Kelly Drye.

Today I'm testifying on behalf of the National Marine Manufacturers, which represents over 1600 boat builders and engine manufacturers. I will be followed by representatives speaking for the lawn and garden industry, followed by the furniture manufacturing industry, followed by the California construction industry, and finally by the California Motorcycle Dealers.

These five diverse associations would like to work constructively with the ARB and the Executive Office to evaluate and try to develop recommendations through a consensus-based process on improvements to ARB's enforcement policies. To that end, our coalition has developed a position paper, which I shared -- I think you have before you. That position paper is largely based on the work product and careful report written by George Lawrence.

And I'm sure, Chairman, you remember George Lawrence. He has a very distinguished 30-year career. He
was head of EPA's Mobile Source Enforcement Division for 12 years. And George was the proud architect of a comprehensive 50-page EPA penalty policy matrix. And as George explains in his report, that's been a very effective tool in helping U.S. EPA reach fair, transparent settlements since there's a clear litmus through that matrix under which parties can come to an agreement and reach a fair settlement through a much more expedited process. It used to take EPA a much longer period to reach those settlements.

Working with George Lawrence, the affected coalitions urge the ARB Board to direct the Executive Office and staff to work closely with all the affected stakeholders and create, we believe, a very needed transparent penalty policy and process that achieves the following goals that we believe all of us share:

First, we should distinguish between major versus administrative minor violations that have no impact on the environment and do not involve any avoided compliance costs.

Second, we should distinguish between different grades of innocence or culpability, taking into account whether a party undertook reasonable prudent precautions.

Third, we should be targeting and focusing California's limited enforcement and judicial resources on
gross emitting in unsafe products from deliberate bad
actors, often from China, that are unfairly hurting
consumers, air quality, and reputable manufacturers and
dealers in the marketplace.

Fourth, we would like to work with you to ensure
that CARB enforcement staff are fully complying with all
California laws and due process requirements, including
those under the Office of Administrative Law.

Finally, I'd just like to note that we believe
that the ARB Board and Executive Office has an obligation
to exert leadership role in this important policy issue.
And, again, we are dealing with generic policies, not with
individual cases which we understand are held and
addressed on a case-by-case basis.

Thank you.

CHAIRPERSON NICHOLS: Very good. Thank you.

MS. WILSON: Good afternoon, Chairman and
members of the Board. My name is Donna Wilson, and today
I'm appearing on behalf of OPEI, the Outdoor Power
Equipment Institute.

As its name suggests, OPEI represents numerous
manufacturers of outdoor power equipment, ranging from
chain saws to lawn mowers.

My comments today are directed toward ARB's
policy or, more precisely, its lack of policy with respect
to the setting of enforcement penalties.

My remarks will consist of three points:

First, what is exact issue we're dealing with here? The precise issue is that unlike the EPA in other states, ARB lacks a basic and transparent penalty policy for its enforcement program.

Now why is this important? Without such a policy, the process of setting a penalty is imbued with unchecked subjectivity. Indeed, even similar categories of violations can be treated differently under this rubric. As a result, the penalties imposed are inconsistent with California law and Section 205 of the CAA, under our view.

Third, what relief is OPEI seeking from the Board?

The relief we're seeking is that the ARB establish a penalty policy that, among other things, a) identifies and applies objective and transparent criteria and b) imposes a range of penalties that are reflective of the relative seriousness of the violations.

In sum, OPEI respectfully requests that the Board consider and act on this issue to ensure the basic values of due process in this regulatory body.

Thank you very much for the opportunity to speak to you today.
CHAIRPERSON NICHOLS: Thank you.

MR. MILLER: Good afternoon, Chairman Nichols and members of the Board. My name is Clayton Miller and I represent CIAQC.

As you know, CIAQC is a coalition. It represents thousands of construction equipment and users. We talked a lot about that this morning.

These companies are generally small companies and they don't typically have the resources and sophistication to effectively engage with CARB with regard to enforcement matters sort of at a legal level.

CIAQC generally agrees with the comments made by OPEI and the marine manufacturers before me.

CIAQC as an organization is comprised of small business end users of the regulated equipment. And for that reason we think it's uniquely interested in developing a robust and transparent administrative hearing process that CARB already routinely uses, much as it does under the heavy-duty diesel inspection program.

CIAQC is aware that CARB has the authority to utilize this administrative penalty hearing process for virtually all violations since the passage of Senate Bill 527 back in 2001. However, I guess its application continues to be somewhat limited beyond that.

CIAQC members are very similar to the entities
and companies affected by the On-Road Inspection Program. In fact, many CIAQC contractor companies have vehicles that fall into that regulation. But now in looking forward, there will be thousands of companies subject to regulatory compliance for the off-road/on-road portable equipment regulations. And the provisions found therein I guess include the idling limitation rules, reporting and in-use requirements.

So what we want to recommend is that CARB offer an administrative penalties hearing process for those things moving forward. We think doing so would improve efficiencies for limited agency staffs and private sector staffs and limited resources, especially given the ongoing budget crises and ever-increasing compliance regulations moving forward.

Local air districts already utilize administrative processes, and that could serve as an example here.

So I wanted to thank you for the opportunity this afternoon. And I appreciate the ability to give a perspective and make the suggestion today.

Thank you.

CHAIRPERSON NICHOLS: Thank you.

MR. DUNLAP: Good afternoon. It's good to be
with you today.

I wanted to compliment Supervisor Roberts on the nice house for having the meeting here in San Diego.

I'm John Dunlap and I'm representing the American Home Furnishing Manufacturers' Alliance. The AHFA, as some of you may recall, is the voice of the American furniture industry and has been working closely with the Board staff on the implementation of the formaldehyde furniture regulation.

The association is particularly concerned about a consistent predictable enforcement program that at present is undefined despite some regulatory deadlines that are emerging relative to compliance dates.

So they're adding their voice today to those speaking in hopes of securing your awareness of the need for this clear, consistent enforcement compliance framework and requesting that a workgroup be formed and established to discuss possible remedies. One of the areas - and I think Chair Nichols will appreciate this - that needs to be examined is about strict liability, whether it should be blindly applied or should involve some enforcement discretion. If discretion is allowed, this could encourage manufacturers in their efforts to undertake reasonable prudent precaution in making sure they're in compliance.
I know, Chairman Nichols, given your experience federally with U.S. EPA, you understand kind of the rub and how important it is to have things work through a consistent framework. It gives -- in my consulting practice I spend a lot of time working to settle enforcement cases. It's very difficult oftentimes to predict what people are looking at, what their exposure is. You heard earlier today a comment I think Supervisor -- or not Supervisor -- Board Member Riordan brought it up about the idea of people having responsibility on the construction side about notifying your staff within 30 days of the sale of the piece of equipment. Well, that issue emerged because they were concerned about having your enforcement staff go out and enforce that small provision and use that as a basis for an enforcement action.

Subsequent to your discussion, we talked to your Executive Officer. He assured us that was not likely going to be the outcome. But nonetheless there's an opportunity for some framework discussions and development of a framework that we believe will benefit not only the compliance the Board seeks, but the assurance that the industry, you know, has a level playing field if they're confronted.

I might add that your Board deals with some very
thorny regulatory issues. And you in good conscience ask your staff to strive to implement those regulations fairly and consistently. And they -- I believe their motives are pure. But how those regulations are applied, particularly in the enforcement arena, give people great pause and some concerns.

So, Madam Chair, I think the key takeaway just from my few minutes with you is if there's a way for you to get behind some kind of an effort to establish a work group to work through some of these things. I think your experience and hopefully Mr. Goldstene's commitment will get us where we need to be.

CHAIRPERSON NICHOLS: Thank you.

Last.

MR. PALIWODA: Good afternoon, Madam Chair and Board members. I'm the Executive Director of the California Motorcycle Dealers Association, John Paliwoda. It's a 38-year-old nonprofit trade association for California motorcycle dealers. We're the voice for over 350 motorcycle dealers here -- franchise motorcycle dealers here in California. And a majority of them are CMDA members.

Because of the nature of our products that can affect California's air quality, we seek to work closely and cooperatively as we have tried to in the past with the
However, the CMDA supports the letter from the coalition that we belong to, of diverse associations including OPEI, and MMA, and CIAQC.

We beseech the Board, we ask the Board to conduct a systematic review of ARB's enforcement criteria and procedures. And from the CMDA standpoint, enforcement should not be concentrated and focused on innocent parties who are often overwhelmed by the ARB's disproportionate resources into agreeing to grossly unfair and often undeserved settlements for what should be administrative fines.

ARB should not seek to enforce regulations retroactively before their effective date. ARB must follow the California Administrative Procedure Act and receive Office of Administrative Law approval before prospectively applying regulations.

Senior enforcement counsel plans to pursue enforcement actions against hundreds of dealers and to rescind green sticker registrations from owners that allow for off-highway recreational use on public lands for vehicles that were sold in 2006 and early 2007. This was a year before the effective date of amendments to the off-highway recreational vehicle rule were approved by the Office of Administrative Law, which was August 15th, 2007.
ARB enforcement is proceeding to file costly and inefficient enforcement actions against hundreds of motorcycle dealers that innocently sold products before the effective date of this regulation.

To prevent these unwarranted enforcement actions, regrettably the CMDA is filing a petition with the Office of Administrative Law. This petition requests that the Office of Administrative Law declare that the retroactive enforcement of the off-road recreational vehicle rule amounts to an underground regulation in violation of the Administrative Procedure Act.

In closing, the CMDA did not ask for this turn of events. We look forward to constructively working with the Board, with the staff in trying to resolve these issues. Please give your most serious attention. Too many manufacturers, trade associations, dealers and retailers continue to be the targets for these heavy sanctions justified by staff opinions, advisories, and interpretations that were not approved as regulations by the Office of Administrative Law.

Thank you very much.

CHAIRPERSON NICHOLS: Thank you.

Obvious we cannot take any official Board action on this item.

Actually I want to say, first of all, I really
I appreciate the fact that you're all here. And it may be
just one of those wonderful alignments of the stars. But
I have been having conversations with our still relatively
new Chief Counsel, Ellen Peter, who's not here today
because she's addressing the 9th Circuit Judicial
Conference in my stead about the desirability of adopting
some more formalized procedures for handling enforcement
cases.

So actually your timing is excellent. And it is
something that I think the Board should be looking to.
This is not a quick and easy process, I am sure you
realize. And there are differences in different types of
regulations and there are differences -- there may well be
differences in specific instances. For example, the case
that Mr. Paliwoda is talking about, you know, may or may
not be one that would be addressed by this kind of a
discussion.

But in general, to have a discussion about
regularizing and formalizing penalty structures and
procedures and, as much as possible, clarifying when we
take different paths in the enforcement I think would work
to all of our benefit.

The fact is, I can't say how strongly I
believe -- I cannot say this too strongly. An effective
enforcement program is at the heart of the work of this
agency. If we are not enforcing our regulations in a way that is seen by the public to be effective and fair, we might as well not be passing all the regulations that this Board works so hard to adopt. So it is a really critical piece of our agency's operation.

But rather than sort of go through, you know, responses to the comments that were made here, I think the best thing to do would be to simply ask Mr. Goldstene to reflect on these comments and come up with a structure -- I know the word "task force" was used, "working group" I think was used. I again appreciate the fact that this particular group of people has come to us, but there may well be others that should also be included in such a discussion.

So I think we should leave it to you to develop a response and let us know.

But we really do appreciate your all taking the time to come here and to bring this to our attention. Thank you.

EXECUTIVE OFFICER GOLDSTENE: We will.

CHAIRPERSON NICHOLS: Okay. We will.

Excellent.

Thank you.

Are there any further comments?

No.
All right. Hearing none, then I believe we will be adjourned.

Thanks, everybody.

(Thereupon the California Air Resources Board meeting recessed at 3:02 p.m.)
CERTIFICATE OF REPORTER

I, JAMES F. PETERS, 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 California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California,

That the said proceedings was taken before me, in shorthand writing, and was thereafter transcribed, under my direction, by computer-assisted transcription;

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

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of August, 2009.

JAMES F. PETERS, CSR, RPR
Certified Shorthand Reporter
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