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Mr. Mark DeSaulnier
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Mr. Bob Cross, Chief, Mobile Source Control Division
Mr. Tom Jennings, Senior Staff Counsel
Mr. Jack Kitowski, Chief, On-Road Control Branch
Mr. Chuck Shulock, Vehicle Program Specialist
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PETERS SHORTHAND REPORTING CORPORATION  (916) 362-2345
CHAIRPERSON LLOYD: Good morning, the January 25th, 2001 public meeting of the California Air Resources Board will now come to order.

I should let you know that there is overflow capability in the cafeteria if you can’t get into this room. The cafeteria is in name only, but there is room back there that can be used.

Mr. Calhoun, would you please lead us in the pledge of allegiance.

(Thereupon Mr. Calhoun lead in the Pledge of Allegiance.)

CHAIRPERSON LLOYD: Will the clerk of the Board, please call the role.

CLERK KAVAN: Dr. Burke?
BOARD MEMBER BURKE: Present.
CLERK KAVAN: Mr. Calhoun?
BOARD MEMBER CALHOUN: Here.
CLERK KAVAN: Ms. D'Adamo?
BOARD MEMBER D'ADAMO: Here.
CLERK KAVAN: Supervisor DeSaulnier?
BOARD MEMBER DeSAULNIER: Here.
CLERK KAVAN: Professor Friedman?
BOARD MEMBER HUGH FRIEDMAN: Here.
CLERK KAVAN: Dr. Friedman?
BOARD MEMBER WILLIAM FRIEDMAN: Here.

CLERK KAVAN: Mr. McKinnon?

BOARD MEMBER McKINNON: Here.

CLERK KAVAN: Supervisor Patrick?

BOARD MEMBER PATRICK: Here.

CLERK KAVAN: Mrs. Riordan?

BOARD MEMBER RIORDAN: Here.

CLERK KAVAN: Supervisor Roberts?

BOARD MEMBER ROBERTS: Here.

CLERK KAVAN: Chairman Lloyd?

CHAIRPERSON LLOYD: Here.

Thank you very much. Again, I thank my

colleagues we've got the full house today on this

important issue.

First item on the agenda is 00-1-1, proposed

amendments to the ZEV Regulation. In preparing for this

Board hearing, I have asked myself what is it about this

issue that makes it so difficult? The answer I think is

that zero emission vehicle programs have such tremendous

potential to help address the variety of issues yet fully

realizing that potential always seems to be just beyond

our reach. I think public health, global climate change,

energy diversity, energy efficiency. All of these

significant problems could be mitigated by the switch to

zero emission vehicles.
Few of the programs that the Board considers could make such the tremendous difference. This was the driving force behind the Board action in 1990, and remains the driving force behind our actions today. Thus the issue carries with it more than most, the built in tension between what we would like to see and the realities of what can be accomplished in the near term.

Last September the Board voted -- considered the status of the Zero Emission Vehicle Program. That biennial review was the culmination of extensive staff effort to assess the progress of the technology. We also saw the tremendous progress being made in the auto industry, the battery developers and other stakeholders as we moved ahead.

As the board we voted unanimously to affirm the importance of the ZEV Program to California's air quality efforts. And we resolved that the basic ZEV requirements must be retained and implemented.

This affirmation is the reflection of our collective belief that we must continue to make progress towards zero. A health of California's citizens demands nothing less. It's interesting that recent studies of children's health in the Los Angeles community confirm the wisdom of our actions.

We also, however, directed staff to work with the
automakers and other interested parties to develop modifications to the program to address some of the implementation challenges facing ZEVs. In directing staff to propose changes, we acknowledge the clean vehicle technology is progressing on the variety of fronts, and that our program needs the take full advantage of recent advances in near zero approaches.

We also, I think, recognize that we may not be able to realize all of the potential benefits of ZEVs as fast as we would like. Again, I would like the remind everyone that ZEVs, in fact, comprise the family of technologies, including batteries, fuel cells and certain hybrids.

Put most simply we asked the staff to develop recommendations that result in the program that works, both now and in the long term, we want to capture the benefits of new technologies and begin to actually realize the potential that our predecessors first envisioned in the 1990's.

In fact, it goes beyond that when we look at the technology forcing actions in California from the seventies. And as we've seen recently, indeed, the path to clean air is paved with advanced technologies, and that was started by this Board in the nineties, and we can see how technology is helping us get there. But we feel that
encouragement, if you like that push, has played the
critical role in our progress.

Since the September board meeting, staff has been
working to explore ideas, assess possible approaches, and
develop the recommendation for the Board's considerations.
This has been the wide ranging exercise, extending from
continuation of status quo on the one hand to
investigation of market based proposals on the other.

I think there's been no shortness of suggestions
as to how to improve the program. Although, I must
observe that I feel that the auto industry was slow to
respond after the September board meeting to some of our
desires, they work closely, but, in fact, we've made
significant progress in the last few months in that.

I think the staff has kept an open mind in
looking at many, many options. They have now come forth
with their recommendation. There likewise has been
shortage of comments on the merits of the staff proposals,
both pro and con. Given the wide variety of viewpoints
held by all of us assembled here, it is not surprising
that we each find some things we like and some things that
perhaps we would change.

Speaking for myself, I believe the staff proposal
does the good job of providing flexibility to pursue the
wide range of options. But I admit the some concerns the
proposal may not be as aggressive as it could be in pushing the continued advancement over the long term. Personally, I will be evaluating the testimony and probing the witnesses to see where we can be more aggressive without unduly upsetting the balance provided in the staff report.

In the course of today's meeting we'll be briefed on the staff proposal and then we will listen to the many views and perspectives as to what we, as the board, should do. As always, we are all looking for information and insights that will assist us in this very difficult task, but also very important task.

So with that, Mr. Kenny, will you please begin the presentation of this item to the Board.

EXECUTIVE OFFICER KENNY: Yes. Thank you, Mr. Chairman and members of the Board. A purpose of today's public meeting is for the Board to consider proposed changes to the Zero Emission Vehicle Program. Those changes have been prepared by staff in response to your directive last September in that we developed modifications to the program to address some market implementation challenges. Items that you have mentioned in the past and in September included near term product availability, market stability, the need to enhance public education, and the need to deal with the high
initial cost of vehicles and batteries.

In the moment, you will hear the details of our proposed amendments along with the discussion of our activities in some related areas, such as incentives, infrastructure and public education.

Before I turn it over the staff for that presentation, however, I would like the lay out the philosophy and approach that guided our efforts.

We saw as our central task the need the maintain the core ZEV requirement that results in steadily increasing zero emission BMT. We also thought it important the provide the variety of options that could be pursued by manufacturers. Within that overall framework, we found it necessary to address and balance the number of factors. We have sought to ensure that what we propose makes sense when looked at item by item and also makes sense when viewed as the whole. Our proposal the complicated, but that complexity stems from our desire to accommodate many differing approaches.

With that, I'd like the turn it over the Chuck Shulock who will make the staff presentation.

(Thereupon an overhead presentation was presented as follows.)

VEHICLE PROGRAM SPECIALIST SHULOCK: Good morning, Mr. Chairman and Members. To provide background
for your consideration of the issues before you today, I will outline what we have done and why since the September board meeting. I will start by referring back to the Board's direction to staff.

A bulk of the presentation will focus on the staff proposed regulatory changes and related issues. Towards the end I will call upon other staff to provide the brief update on various activities that are under way that will provide support for the expansion of the ZEV Program.

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VEHICLE PROGRAM SPECIALIST SHULOCK: At the September 7 board meeting, you considered the status of the Zero Emission Vehicle Program. As has been mentioned that meeting followed up on the year long review of the various issues conducted by staff with the active participation and involvement of many interested parties. After extensive testimony and public comment the Board adopted the resolution affirming that the ZEV Program is an essential component of the State's long-term air quality strategy. The Board further resolved that the basic ZEV requirements be retained and implemented in California.

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VEHICLE PROGRAM SPECIALIST SHULOCK: Finally, the
Board directed staff to develop and propose regulatory modifications and other steps that address the challenges associated with the successful long-term implementation of the program.

These challenges have been mentioned. Near-term product availability, and I'd like to note here this is encouraging. You asked us to encourage the rapid introduction of the range of zero and near zero technologies.

Market stability, the need to greatly enhance public education, regarding the attributes and benefits of ZEV technologies, and the need to reduce or mitigate the high initial costs of vehicles in low volume production.

In summary, you asked for recommendations that result in the sustainable market for ZEVs.

--o0o--

VEHICLE PROGRAM SPECIALIST SHULOCK: Since that time, we've been hard at work trying to develop recommendations that make sense both now and in the long term. A ombudsman statement will cover our outreach activities in more detail. I will just note that we've been in almost continuous discussion with interested parties. We held the workshop in October to discuss concepts. Our staff proposal was released on December 8th of last year, which set off the new round of discussions.
Last week we released the set of additional modifications to the staff proposal. Meanwhile, we have also been actively investigating what we can do to enhance the support system through the ZEV regulations, the incentives, infrastructure and outreach efforts that also need to be in place for this program to succeed.

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VEHICLE PROGRAM SPECIALIST SHULOCK: To begin our discussion of the proposed regulatory changes, I will outline our rationale, why we did what we did. I then will summarize the key elements of the proposal and the effect of the proposed changes on the number of vehicles required, the cost of the program and its emission benefits. I then will describe the details of the various proposed changes.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This staff proposal represents our best effort to sort through and balance the number of competing objectives. Others clearly will have different views. To assist you in considering the staff proposal and the different approaches that others are sure to suggest, we thought it best the start with an outline of the thought process that lead us to make the choices that we made.

From our standpoint, there are the few key
conclusions, observations on the state of the world, if you will, that drive the rest of what follows. Those conclusions bring with them certain implications for policy.

Looking at the policy implications, we then felt compelled to make certain recommendations. This discussion thus goes to the heart of our proposal and its internal logic.

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VEHICLE PROGRAM SPECIALIST SHULOCK: First and foremost, we are persuaded that volume alone the not the answer for ZEVs given today's level of technical development.

Cost reduction on these new technologies is the function of two things, clearly volume is important, but you also need successive iterations of product design and manufacturing technique. These forces are at work in the ZEV market, but they take time. As the result, no matter how many vehicles are built using the technology that will be in place in the 2003 time frame, their costs will not approach that of conventional vehicles.

Given this conclusion, what does it suggest for policy? For us it means two things. First we need the maintain pressure to force ongoing technology improvement, so that future iterations continue to improve. You made
this clear in your direction to staff that the core
requirement be maintained.

VEHICLE PROGRAM SPECIALIST SHULOCK: Second,
there is the point at which building additional vehicles
does not do much to enhance long-term success and, in
fact, can divert resources and investment. Therefore, you
want to avoid over investment in near-term technologies.

Thus, the resulting recommendation is that the
mandate be maintained at the reduced level as compared to
the current program. What is the optimum level? That, of
course, is literally where the rubber meets the road.

Again, our staff proposal represents our best effort to
define the sustainable pathway.

VEHICLE PROGRAM SPECIALIST SHULOCK: Another key
conclusion is that gasoline internal combustion engines
SULEV, PZEVs it's the mouthful. Such vehicles soon will
entirely fill the six percent category. They are the
least expensive option. And, as the result, it is very
likely that manufacturers will use only this approach on
the six percent side. There is some transition time
needed and we have recommended the phase-in to provide
addition flexibility.

But relatively quickly, such vehicles will be
produced in quantities sufficient to fully satisfy the six percent option. This is not the bad thing. Such vehicles are very, very clean and represent the significant step forward. Having large numbers in the fleet will enhance air quality. The problem, however, is that reliance on the basic PZEV does nothing to encourage more advanced approaches. There are the variety of vehicle types that go beyond the basics, offer important advantages, move us towards zero emission technology, and, in our view, should be pursued.

Thus, some sort of additional incentive is needed if we are to see advanced technology PZEVs pursued as part of the ZEV Program. Without such the change, we believe we would see ZEVs and basic PZEVs but nothing in between.

One approach that has been suggested is to increase the allowances earned by such vehicles, advance technology vehicles, but leave them on the six percent side. This likely would encourage production, but at the expense of fewer numbers of basic PZEVs. This would give away achievable air quality benefit and does not seem to be the preferred course.

Given this situation in our previous point that the number of ZEVs should be reduced, our recommendation is to allow advanced technology PZEVs to count as the further offset against the portion of the ZEV requirement.
VEHICLE PROGRAM SPECIALIST SHULOCK: Our final overarching conclusion is that it is absolutely essential to eliminate the uncertainty that has been associated with this program since its inception. If you think of the ZEV Program as the TV show, we want it to stop being the cliff hanger drama, complete with ominous music and instead become the Ken Burns documentary.

(Laughter.)

VEHICLE PROGRAM SPECIALIST SHULOCK: Where does this observation take us? First, we want to reduce the initial risk faced in the early years. We are doing something new and different here. And with that, comes some question as to how the public and the market will react. We decided that we would rather start small and build than run the risk of an overly ambitious beginning that results in unsold vehicles.

Second, we think that it’s important to try to craft an approach that has at least some degree of manufacturer support. If manufacturers think that they can make this work, we have entered the new era and new possibilities unfold.

A resulting recommendation is that we provide the ramp up that is ambitious, that recognizes the risk and is sustainable over the long term.
VEHICLE PROGRAM SPECIALIST SHULOCK: That is how we look at the world. Putting all of it together, we developed the staff proposal with several key elements. Maintain the core technology forcing ZEV mandate, phase in the ZEV and PZEV requirements, allow further ZEV reductions if offset with advanced technology PZEVs, and gradually increase the future ZEV requirement.

One other point that I'd like to highlight. We recommend that the vehicle must be placed in service in order to earn any credit multipliers. This is intended to guard against scenarios where vehicles are produced, but not actively marketed.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This next slide provides an illustration of the way in which the current regulation and our staff proposal handle different types of vehicles. The column on the left represents the current regulation divided into four and six percent portions. Grid connect hybrids are split -- excuse me, battery EVs and hydrogen fuel cells go the top four percent.

Grid connect hybrids are split. With sufficient range, they're considered full ZEV allowance vehicles and go the top, otherwise they're treated as PZEVs in the
bottom six percent. All other vehicles, hybrid electric
vehicles, CNG vehicles, reformer fuel cells, gasoline
internal combustion PZEVs, go into the bottom six percent.

In case you're wondering, the question mark next
to direct methanol fuel cells indicates that we do not yet
have the test data to conclusively determine where such
vehicles would fall.

A column on the right illustrates the staff
proposal. A main difference involves the middle category
that we have created, for what we call advanced technology
PZEVs. As you can see, under the staff proposal such
vehicles can be used to offset one half of the top four
percent. A other significant change relates to what we
call grid connect hybrid electric vehicles.

Under the staff proposal, the grid connect hybrid
with the 20-mile range is treated as the ZEV. We made
this change for several reasons. From an emissions
standpoint, the 20-mile hybrid would spend much of its
time functioning in ZEV mode. In practical terms, when
the vehicle is being used in internal combustion mode, it
probably would be on the longer trip, and such the trip
would not have been taken by the ZEV anyway. And such
vehicles, due to their extended range, have the potential
to be more of the mainstream vehicle.

Finally, because of the reduced battery pack
size, the vehicle can be produced at the lower cost than the pure battery EV. We, therefore, see grid connect hybrids as the promising way to introduce additional zero emission travel into the fleet.

Meanwhile, however, it appears that without the move to the ZEV side, we are unlikely to see any manufacturers produce such the vehicle. Given their cost and the issues associated with battery use, if treated as PZEVs, they do not appear to be attractive in comparison to other options. On balance, we therefore decided to include them on the top two percent as the way to encourage experimentation.

Again, we recognize there are many schools of thought on this issue, and we look forward to hearing further comment.

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VEHICLE PROGRAM SPECIALIST SHULOCK: In the few minutes, I will go through the more detailed discussion of the various specific proposed changes. Before that, however, I will describe the overall effect of the staff proposal in terms of the number of different types of vehicles produced, the cost of the program and the resulting emissions.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This slide
illustrates the PZEV phase-in. As you can see, the staff proposal calls for reduced numbers in the early years, 2003 through 2005, but catches up by 2006.

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VEHICLE PROGRAM SPECIALIST SHULOCK: I will use several graphs to illustrate what goes on with ZEVs. This first slide compares the current regulation, the staff proposal at the four percent level and the staff proposal assuming that manufacturers take full advantage of the advanced technology PZEV option.

In this latter case, ZEV production the set at two percent. Some caveats regarding these numbers. Except where noted, these graphs assume that manufacturers produce what we call, full function EVs, not City Cars or neighborhood electric vehicles. They also assume that the vehicles are similar in range to the vehicles we have seen to date.

Finally, they assume no early introduction prior to 2003. Because the regulation gives the manufacturers considerable flexibility on all of these points, the actual number of vehicles that would be produced in each year the uncertain and depends on the specific strategies that would be employed.

As you can see, the staff proposal starts off at the reduced level compared to the regulation, then
increases over time. This is the embodiment of the sustainable ramp that I mentioned earlier in the staff's proposal.

--o0o--

VEHICLE PROGRAM SPECIALIST SHULOCK: This next graph looks at what happens if manufacturers produce other types of vehicles in addition to full function EV's. For this estimate, we assume that one-third of each manufacturer's ZEV obligation is met by full function EV's, one-third by city EV's and one-third by neighborhood electric vehicles.

Under this scenario, the number of vehicles introduced increases. A total under our two percent option, for example, is about 10,000 vehicles in 2003 and about 15,000 in 2004 and 2005.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This graph provides the different perspective. In addition to looking forward at what is expected, it also looks backward at what has actually occurred to date. In other words, how does our staff proposal compare to the number of vehicles that have been placed so far.

Looked at from this standpoint, you can see that our staff proposal represents the fairly dramatic increase from the status quo. In the first year alone, the number

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of vehicles introduced would be about twice the total that
has been placed up to today and nearly six times the
highest annual total yet seen.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This graph
shows the same information displayed as cumulative
placements over time. Again, it illustrates the rapid
growth in ZEV placements as compared to what has been seen
so far. As I mentioned earlier, the staff proposal allows
manufacturers to reduce the number of ZEVs produced if
they backfill with advanced technology PZEVs. This slide
looks at the numbers associated with that backfill in
comparison to the current regulation.

A pale lines to the left are the number of ZEVs
that would be produced under the current regulation. A
dark lines to the right are the number of ZEVs plus
advanced technology PZEVs that would be produced under the
staff proposal.

As you can see, although the staff proposal has
fewer ZEVs, it results in the large number of highly
advanced vehicles being introduced into the California
fleet.

--o0o--

VEHICLE PROGRAM SPECIALIST SHULOCK: This final
view of the vehicle numbers looks at the cumulative effect
of all parts of the program ZEVs, PZEVs and advanced technology PZEVs. In other words, this tracks the introduction of new super clean vehicles into the California fleet, as the result of the ZEV Program, under the current regulation and under the staff proposal.

As the graph illustrates, the staff proposal starts off with slightly lower numbers. This is due primarily to the PZEV phase-in. By the end of the tracking period, the two programs are equal. One noteworthy point illustrated by this graph is that by the year 2010 there will be almost three million ZEV program vehicles on California roads. That is about 14 percent of the passenger car LDT-1 fleet that is subject to the mandate and about ten percent of the entire fleet of passenger cars and light-duty trucks.

This is the remarkable transformation. A ZEV Program will bring about the fundamental change the California vehicle marketplace.

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VEHICLE PROGRAM SPECIALIST SHULOCK: One of the issues that you asked us to address was cost. We estimate that the staff proposal will result in significant savings on the order of $130 million to $400 million in 2003 alone. A exact savings will depend on the compliance strategy used by each manufacturer.

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Some portion of the savings is due to the PZEV phase-in and thus would decrease over time. Savings on the ZEV side are ongoing.

From an emissions standpoint, the staff proposal basically is emission neutral. Our model runs show an extremely small emission increase in 2010 and equally small decrease in 2020.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This next series of slides will go through the various specific changes that we propose. There are the number of changes and the end result is somewhat complicated but, as Mr. Kenny mentioned, that's an outgrowth of our desire the provide flexibility for manufacturers to pursue the variety of approaches.

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VEHICLE PROGRAM SPECIALIST SHULOCK: A first several specific changes have already been mentioned, so I will touch on them quickly. This slide shows the PZEV phase-in, which is 25 percent in 2003, 50 percent in 2004, 75 percent in 2005 and 100 percent thereafter.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This slide shows the ZEV phase-in. Here I would like the point out one of the recent staff modifications. Under our original

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proposal as released on December 8, the 4.0 ZEV multiplier
started in model year 2001. We received comment that
pointed out that this lead to the treatment of vehicles
introduced in model year 2000, such that they would have
the reduced credit lower than that earned by either 1999
or 2001 vehicles. I won't go into why this is. It's the
interaction of the various credits, but the end result was
that year 2000 vehicles received the lower credit.

We therefore decided to make the 4.0 multiplier
retroactive to model year 2000. This phase-in multiplier
the reduced the 1.25 for model years 2003 through 2005 and
disappears thereafter.

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VEHICLE PROGRAM SPECIALIST SHULOCK: We also
propose to reduce the credits earned by neighbor electric
vehicles or NEVs. Here we faced the dilemma. NEVs were
not anticipated when the regulation was first crafted, and
we have some question as to the relative air quality
benefit of such vehicles. Nevertheless, they are the
legal compliant strategy given the regulation as it
exists, and they do offer the potential to displace
conventional vehicle trips.

We believe that the ultimate NEV credit level
should be less than one, but we also thought it necessary
to provide some lead time prior to making this change.

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This graph illustrates how we ended up. A line, which ties to the scale on the right, shows the credit level earned by NEVs beginning in 2003. Prior to 2003, they would earn the 4.0 multiplier along with other vehicles.

A NEV credit declines from 1.25 in 2003 down to 0.15 in 2006. A bars which tie to the scale on the left show the number of NEVs that manufacturers would need to produce to comply with the regulation. Current regulation on the left, staff proposal at the two percent level on the right.

As you can see, under the staff proposal by 2006 there is the dramatic increase in the number of NEVs that would be required. Thus, we believe that to the extent that NEVs are used as the compliant strategy, they are the transitional approach that will be replaced by city EVs or full function EVs within the few years.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This next slide illustrates our proposed increase to the basic ZEV requirement, the ten percent. We propose that the ten percent requirement increase over time to 16 percent by the year 2018.

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VEHICLE PROGRAM SPECIALIST SHULOCK: These next two changes have also already been mentioned. We propose
that hybrid electric vehicles with an all-electric range of 20 miles or more be treated as ZEVs. Such vehicles would earn credit based on their ZEV range with their tested range multiplied by 3.5 to account for the fact that such hybrids could be used on the larger number of trips.

We also propose to allow advanced technology PZEVs, vehicles with the PZEV score of 0.4 or greater to satisfy part of the ZEV requirement.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This next change is the bit more esoteric. We propose the manufacturers that can achieve double the PZEV phase-in level in 2003 and 2004 be given extra time to take advantage of the advanced technology PZEV options. Our purpose here is to encourage overcompliance on the PZEV side where possible. A few manufacturers may have the capacity to exceed the phased in PZEV requirement. Under the basic regulation they would have no incentive to do so. This provision of the staff proposal provides some flexibility to manufacturers in that situation.

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VEHICLE PROGRAM SPECIALIST SHULOCK: We also propose the modification of the ZEV range credit. Direct comparison of our proposal and the current regulation is
complicated by the fact that under the current regulation
the range multiplier and the early introduction multiplier
are combined into the single measure, while under our
staff proposal, these two factors have been separated.

This graph puts the current regulation and our
staff proposal on the comparable basis. It shows for
model year 2003 the credit earned under each approach for
vehicles introduced. As you can see, the range credit
under the staff proposal begins the ramp up sooner and
ends up higher than under the current regulation.

A reduction in the minimum range needed to earn
the range multiplier responds to many comments we received
arguing that shorter range vehicles can be the
cost-effective solution in many applications. We also
took this approach in order to provide the way to
differentiate among NEVs, city EVs and full function EVs.
After considerable investigation of options, range turned
out to be the best way to differentiate among these
different vehicle types.

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VEHICLE PROGRAM SPECIALIST SHULOCK: One other
wrinkle of the range credit relates to the quick refuel
provisions. Under the current regulation, ZEVs that can
fully refuel or recharge in ten minutes earn the maximum
range credit. This encourages quick charging and also
encourages hydrogen fuel cells due to their fast refuel capability. We retained the provision in our staff proposal.

Upon further review however, we determined that if we'd kept the quick refuel provisions indefinitely in combination with our increased upper limit on the range credit, they resulted in too few vehicles under future strategies that relied on hydrogen fuel cells.

In other words, such vehicles would earn so many credits even in 2010 and beyond that too few vehicles would be needed to comply. This graph illustrates what I mean.

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VEHICLE PROGRAM SPECIALIST SHULOCK: A first stepped line going up shows the number of vehicles needed each year, assuming full function battery EVs. A lower green line shows the number of vehicles needed if beginning in 2010 manufacturers meet their obligation using hydrogen fuel cell vehicles under our original staff proposal introduced in December.

As you can see, the number drops significantly.

In order to avoid this outcome, staff proposes to eliminate the quick refuel provisions beginning in 2009. A result is illustrated by the third line, which the really super imposed on the pink line, which tracks with
the full function EV line. What this says is that given
our most recent recommended change, the number of fuel
cell vehicles would be about the same as the number of
full function EVs. This calculation assumes the fuel cell
range of about 110 miles.

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VEHICLE PROGRAM SPECIALIST SHULOCK: This next
proposed change deals with battery and full cell stack
warranties. As you are aware, battery life remains the
concern. To encourage manufacturers to provide extended
warranties for EV batteries, we propose an extra credit
that is earned each year beyond the three typically
covered under the initial lease, that the ZEV or extended
range hybrid remains in service and covered under the
battery warranty.

A value of the credit is one-tenth of the
original credit earned by the vehicle, excluding any early
introduction multipliers. From an equity standpoint, we
defined this provision to cover the source of electricity
for the vehicle, rather than specifically saying battery.
Thus, it would also apply to fuel cell stacks.

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VEHICLE PROGRAM SPECIALIST SHULOCK: We propose
to increase the allowance earned by vehicles that use
advanced ZEV componentry. Under the existing regulations,
such vehicles earn an additional allowance of 0.1. A purpose of this provision is to reward vehicles that use components, such as batteries, regenerative braking or electric drive that are used on ZEVs. By increasing the production level of such components, it will help bring down the cost for ZEVs.

We propose to increase this allowance to 0.25. This provides further encouragement for such vehicles and also compensates for the fact that we have determined that the batteries used in hybrid electric PZEV vehicles must be warranted for 150,000 miles.

Some further discussion regarding this provision is under way. We want to provide additional guidance regarding exactly what is and is not eligible to earn this bonus. We are also reviewing the suggestion that we treat this item as the sliding scale, giving different allowances to different degrees of sophistication, rather than treating all vehicles the same.

VEHICLE PROGRAM SPECIALIST SHULOCK: We propose to provide the multiplier based on vehicle efficiency. This multiplier would apply both to ZEVs and to advanced technology PZEVs. Conventional internal combustion gasoline PZEVs are not eligible to earn an efficiency multiplier under our proposal.
A purpose of this multiplier is to recognize that increased vehicle efficiency has multiple benefits. It increases the range of battery electric vehicles. It reduces upstream emissions from all vehicles, regardless of fuel source. And it reduces the multi-media environmental problems associated with fuel production and transfer.

Last week we released the revised version of our efficiency scoring system. In brief, the system works as follows:

First, you'd calculate, what we call, the California Miles Per Equivalent Gallon for the vehicle. This measure provides the common fuel economy denominator for all vehicles regardless of the fuel that they use.

Next, you would assign the vehicle to the class. A classes we used are based on US EPA fuel economy guideline classes, such as subcompact, compact or mid-size. Each such class has the baseline fuel economy. This baseline is the sales weighted average fuel economy for all vehicles in that class.

A efficiency score earned by the vehicle is the vehicle's fuel economy divided by 1.5 times the baseline. What this means is that the vehicle needs to exceed the average fuel economy for its class by 50 percent in order to earn any score. We anticipate that vehicles earning
efficiency scores will primarily use electric or hybrid
electric drive.

For ZEVs, the sufficiency multiplier the phased
up as the range multiplier the phased down. For advanced
technology PZEVs, the multiplier would be fully enforced
beginning in 2005.

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VEHICLE PROGRAM SPECIALIST SHULOCK: Under the
current regulation the vehicle must be offered for sale in
order the earn ZEV credit. We propose to allow credits
for vehicles placed in approved demonstration programs.
We have proposed this change in order to allow credit for
participation in demonstration programs, such as the
California Fuel Cell Partnership.

We also propose to allow additional credits for
vehicles placed as part of the transportation system
approach. Such approaches which include car station or
station cars or what are called intelligent transportation
systems have great potential to increase the miles
traveled by each vehicle and leverage increased use of our
mass transportation systems, thus we believe that they
ought to be encouraged.

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VEHICLE PROGRAM SPECIALIST SHULOCK: As was
mentioned earlier, we propose to require that vehicles be
placed in service in order the earn multiple credits. A vehicle that is offered for sale but not actually placed would earn just one credit.

The intent of this provision is to provide additional incentive for manufacturers to place the vehicles in service rather than have them sit on the lot.

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VEHICLE PROGRAM SPECIALIST SHULOCK: We also propose the few administrative adjustments. A first of these the provide certainty regarding the sales volume number used to determine the manufacturer's ZEV obligation. Under the current regulation the manufacturer's obligation in 2003 is based upon sales in 2003. We received some comment that this sets up the moving target that complicates compliance planning.

Under the staff proposal, the obligation for 2003 through 2005 would be based on average sales from model years 1997 through 1999. A similar relationship would hold in future years, so that the obligation would be based on some known prior level of sales. This provides the firm yardstick that is determined well in advance of the compliance year.

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VEHICLE PROGRAM SPECIALIST SHULOCK: We're almost through.
A final set of changes relate to determining which manufacturers need to comply with the regulation in the first place. Under the current regulation, large manufacturers are defined as those with California sales greater than 35,000. We propose to increase this threshold to 60,000 and also to provide additional lead time for compliance when the manufacturer moves from intermediate to large.

Depending on future sales trends, these changes are expected to affect BMW, Volkswagen and possibly Mazda and would allow these manufacturers to remain as intermediates longer than they otherwise would. Our intent in proposing this change is to prevent additional manufacturers from having to compete in the early ZEV market and to allow such manufacturers to continue to focus on PZEV implementation, rather than having to devote resources to building the relatively small number of ZEVs.

Finally, we propose to define the new manufacturer category consisting of independently owned manufacturers with California sales of less than 1,010. Such manufacturers would not be subject to the ZEV regulation. Under the current regulation, the sales cutoff for small manufacturers is the 4,500, regardless of ownership status. What we do here is we say if the
manufacturer is independently owned and not part of some larger group, their threshold would be 1,010?

This change is expected to affect Porsche, which under the current regulation would transition from small to intermediate. That transition would be delayed under our staff proposal.

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VEHICLE PROGRAM SPECIALIST SHULOCK: That concludes my description of the proposed regulatory changes. I now will briefly highlight the main issues that have been raised regarding our staff proposal. I'm sure you'll hear more during the course of testimony today.

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VEHICLE PROGRAM SPECIALIST SHULOCK: Probably the most prevalent concern that has been brought to our attention involves the number of ZEVs that are required, both in the near and the long-term. As I mentioned, the staff report represents our best effort to define the program that works. Others have different views and you will hear their suggestions later on today.

There has also been concerns raised regarding the treatment of various vehicle types, including grid connect hybrid electric vehicles and neighborhood electric vehicles. Are we handling them correctly in our staff
proposals, I'm sure you'll hear suggestions later on.

Meanwhile, the auto manufacturers have promoted
the concept that they term the fair market test. And
finally, there have been some questions raised regarding
how the ZEV Program would effect electricity supply
particularly in light of recent shortages. I will discuss
these latter two items in the bit more detail.

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VEHICLE PROGRAM SPECIALIST SHULOCK: Turning
first to the fair market test, staff has had the number of
meetings to discuss this concept. A bottom line is that
we, as staff, have significant concerns with the proposal.
To touch on the high points we feel that it calls for the
premature decision on long-term costs. It potentially
intrudes upon the Board's authority the set air quality
policy for the State.

A proposal suspends the PZEV requirement even
though our staff proposal is feasible. And most of all,
this fair market test in our view would perpetuate the
uncertainty that we seek to eliminate.

In terms of prolonging the uncertainty, if you
just think about starting -- the startup involved under
such the proposal, we feel it would be considerable to
actually put together the mechanism that is envisioned.
Therefore, in summary, we've not been persuaded that this
is the desirable course of action.

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VEHICLE PROGRAM SPECIALIST SHULOCK: With regard to electricity demand, in cooperation with the State Energy Commission, we have taken the look at the impact of battery electric vehicles on our electricity supply.

The first thing to realize is that most vehicle charging takes place during off-peak hours. Often, the charger is installed with the time-of-use meter that allows the vehicle owner to take advantage of these off-peak rates. Therefore, on the face of it, most EV charging would not contribute to the recent peak shortages that we have seen.

Second, the numbers that we're talking about are exceedingly small. For example, the 2,300 or so battery electric vehicles in use today, collectively account for about five one-thousandths of one percent of total annual energy statewide use. From the peak load standpoint, these EV's add about four one-thousandths of the percent to total statewide peak demand, and that's assuming 80 percent off-peak charging. We've seen other estimates from the Energy Commission that use 95 percent off-peak and would bring that number down further.

By 2010 we expect that the electricity shortfall will be the thing of the past. Nevertheless, we looked at
the implications of the ZEV fleet of about 77,000 vehicles in 2010. This number represents meeting the ZEV requirement with full-function vehicles at the four percent, not the two percent -- plus two percent of other things, but at the four percent level, so this is the fairly ambitious target.

What we found is that the annual energy use for these 77,000 vehicles would be about fourteen one-hundredths of the percent of the statewide total in 2010 and the peak demand, again assuming 80 percent off-peak, would be about twelve one-hundredths of the percent.

There is even some potential that EVs could be integrated into the electricity grid over the long term to provide distributed energy services to utilities, for instance, to provide peak power. Work is under way to further develop these concepts and I believe you will hear the little bit about that in testimony.

In summary, we understand that there may be questions on this matter, but we believe that the facts do not support any cause for concern.
entering the new era now, with ZEV sales about to ramp up
again after several years of little activity. As the
result, we've been taking another look at what we should
be doing with regard to incentives, infrastructure and
public outreach in order the keep pace with the rest of
the program.

These sections will be presented by the lead
staff person responsible for each issue area. First, I
would like the call on Ms. Judy Yee, who works on
incentives.

AIR POLLUTION SPECIALIST YEE: Thank you, Chuck.
Currently over 2,300 ZEVs are on the road in California.
In many cases consumer costs for these vehicles was
reduced by incentives. A incentive package that they
received may have included automaker discounts, federal
tax credits and the local 5,000 vehicle buy down.
A consumer may have also received incentives that
reduced the costs for infrastructure, that electric
charger at home or at the peak refueling center.
Currently the program implemented and funded by
several local air agencies with matching funds from the
California Energy Commission are winding down. A limited
number of 5,000-vehicle buy downs remain, about the dozen
in the bay area, the half the dozen in Ventura county and
perhaps about 70 in the south coast.
The Energy Commission also has an interest in moving on and implementing the broader program based on vehicle efficiency, with perhaps the deemphasis on ZEVs. Last month, the Board approved guidelines for the new $18 million statewide incentive program that was created by AB 2061. On the first come first served basis the consumer may receive grants totaling up to $9,000 for the freeway capable ZEV. This program provides incentives to encourage availability of ZEVs, more than 2,000 ZEVs through the end of 2002.

This month the Governor announced his ZEV Program budget initiative. A proposal for the $50 million program that would primarily be effective in the 2002 and 2004 time frame, bracketing the model year 2003 ZEV requirements.

It would provide grants to reduce the cost of the ZEV by up to $5,000 for more than 10,000 vehicles.

AIR POLLUTION SPECIALIST YEE: Will these current finance programs be sufficient to enhance ZEV marketability and to promote ZEV availability?

Staff proposes that the statewide stakeholders working group be formed to address these questions. Staff received valuable input from an informal working group consisting of State agencies, local air agencies.
automakers and dealers, fleet administrators and bill sponsors when we worked on the guidelines for the AB 2061 program.

Staff would like to see the working group expanded to include local and regional government, ZEV proponents, environmental groups and other interested organizations. Regular meetings of such the group would certainly facilitate exchange of information about and enable us to coordinate all the available State and local incentives.

Staff would recommend, however, that the statewide ZEV stakeholders working group be formed particularly for the purpose of assessing the need for additional incentives in California through 2003 and beyond.

If the finding is that there is the need, the working group should identify and assess the feasibility of implementing new programs here. Directing some resources to supporting current and new federal incentive programs would also be worthwhile as many California cities have received funds for ZEV projects from the number of federal programs.

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AIR POLLUTION SPECIALIST YEE: Staff is currently working on the ZEV incentives report that will lay out our
recommendations for the statewide working group and the schedule. A report will also provide the survey of current and federal California and other states incentive programs. Staff expects that the report will be available in the week or so.

Next, Ms. Gail Swaggart will address infrastructure issues.

MS. SWAGGERT: Thank you. Currently, there is not the standard system or the single standard system for the charging system and little progress has been made towards the uniform system. There are two basic systems currently in use, the conductive and inductive systems.

The conductive system uses metal to metal contacts to transfer electricity from the charger to the car, like the traditional plug, and is currently used in the Honda and Ford electric vehicles.

The inductive system uses the paddle that fits into the socket of the car. There are no metal to metal contacts. Inductive charging is used in the General Motor's, Toyota's and Nissan electric vehicles. The consequences resulting from the lack of the standardized charging system are substantial.

The lack of the single standard is likely to create concerns among consumers and therefore limit the
marketability of electric vehicles in the future. In addition, the lack of the standard substantially increases the cost of installing public charging, as both charger types have to be installed.

The lack of the standard also adds considerable complexity to the cost of maintaining the current public charging network. Staff believes that ARB has the regulatory authority to establish the standard for electric vehicle charging systems. Such regulations could be incorporated as modifications to the ZEV regulations. Staff recommends that the regulatory process be initiated to establish the standard charging system for electric vehicles.

Based on staff's preliminary analysis, the conductive charging system appears to have the most advantages. However, staff proposes that the stakeholder process and workshops be convened to solicit input from the public and all involved stakeholders. Staff proposes that the stakeholder meeting could be held in late February to solicit input with workshop in March, and bringing the proposal for the Board's consideration in June of this year.

Next slide, please.
mentioned, that the stakeholder group be developed to solicit input on standardization as well as the host of other issues, including maintaining and expanding the public charging network, and assessing the need for additional incentives for infrastructure.

Regarding the public charging, ARB staff believes that the expansion and maintenance of the existing public charging network is needed to support the increased number of electric vehicles, which will be available within the next few years. Staff also recommends that all stakeholders work together to support the centralized information source on public charging, user-friendly information, including booklets and information on web sites is critical, so that drivers can know where the public chargers are located. Keeping this information updated is also very important.

And finally, although charger failure and vandalism have been extremely -- much lower than expected, it is very important that any needed charger repairs -- public charger repairs be done as expeditiously as possible so as not to erode the public confidence in the technology.

It may be necessary for stakeholders to investigate new programs or perhaps insurance funds to support repairs to public chargers.
And finally incentives. Incentives to offset the costs of infrastructure also need to be thoroughly investigated. A particular focus or concern the needed incentives to support workplace charging. Workplace charging has many benefits. It allows employees to double -- effectively double the range of their vehicle by charging their vehicle at both ends of their trip at work and at home.

And that concludes the staff presentation on the infrastructure. And now I'd like to introduce Lisa Casper, who will talk about the outreach and education of staff recommendations.

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MS. CASPER: Thank you, Gail. Good morning. In order to build the sustainable market for ZEVs, it is clear that the ARB must work to expand its current outreaching and public education efforts. However, we realize we cannot do this on our own. We believe it is important to work with all the ZEV stakeholders in the collaborative effort to develop and implement the comprehensive outreach and public education plan for ZEVs.

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MS. CASPER: The ARB recognizes that the lot has already been done by the ZEV stakeholders to promote ZEVs.
Therefore, it is our goal to work with them to build on what has been done in the current and past efforts. A few ideas brought up to date include expanding the www.zevinfo.com web site to feature multimedia technologies that will replicate the experience someone has when they approach an EV driver and start asking them questions about their vehicle.

It may also include building on past efforts of the California Electric Transportation Coalition to promote ZEVs, such as using their draft EV consumer awareness campaign. This draft plan was developed in late 1998 and we believe might be the good foundation for moving forward to develop the plan.

We plan to initiate this collaborative effort by holding the public workshop focusing on outreach and public education in late February with the other nonregulatory focuses.

Thank you.

VEHICLE PROGRAM SPECIALIST SHULOCK: Thank you very much, Ms. Casper.

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VEHICLE PROGRAM SPECIALIST SHULOCK: More information on these topics is contained in reports that were recently released on infrastructure and on outreach. And an additional report on incentives will be released.
In conclusion, I'd like to return to the directive that you, as the board, gave to staff last September. We feel that the staff proposal addresses the issues that you raised. We encourage vehicle availability with the use of increased early introduction credits. We enhance market stability by removing program uncertainty in providing the smooth ramp. We have described an expanded publication -- excuse me, public education and outreach effort. And we've reduced cost in the program by phasing in both ZEV and PZEV production. A bottom line result is that we believe that the staff proposal provides the framework to achieve the result that you seek, the sustainable market for ZEVs both now and in the long term.

That concludes our presentation.

CHAIRPERSON LLOYD: Thank you very much, Mr. Shulock and your colleagues.

Madam Ombudsman, will you please describe the public process and participation that occurred while this item was being developed and share any concerns or comments you may have with the Board at this time, in particular, what efforts have been made to reach out to all stakeholders.

OMBUDSMAN TSCHOGL: I will cover that. Mr.
Chairman and members of the Board, in developing these regulatory amendments, ARB staff embarked on the thorough and coordinated effort to solicit input from stakeholders interested parties. Throughout the existence of the ZEV mandate, staff has continuously sought to involve stakeholders.

In preparation for last September's technology review, staff conducted the comprehensive outreach effort. A effort began as long ago as the summer of 1999 and included two major workshops where more than 175 people provided comment. During the technology review periods, staff had 45 individual stakeholder meetings.

As you recall, at the September hearing, 89 people provided testimony to you. Building upon the ZEV -- building upon the September ZEV board meeting, staff began the draft the amendments before you today.

To seek input, staff conducted the public workshop on October 25th. A workshop notice was distributed via the ZEV list and served by US mail and the ARB web site. More than 125 people attended this all-day event in El Monte, many of whom provided comments on various aspects of the proposal.
On December 6th, the notice for this public hearing was made available. Staff posted the notice on-line, E-mailed it to 400 people and mailed it to an additional 1,400 people. Two days later the staff report was released to the same groups I just mentioned.

Staff also held countless one-on-one and small group meetings with interested stakeholders including all of the major automakers, representatives from the electric utilities, ZEV technology providers, environmental organizations and concerned citizens. These meetings gave the stakeholders the opportunity to provide constructive input into the proposal before you now.

Staff also answered telephone inquiries and received hundreds of public comment letters. The shear volume of meetings and outreach context may have set the new ARB record.

In spite of this, consensus was not reached on several issues. As recently as Friday, January 19th, staff released the set of proposed changes to the amendments under consideration. These changes are the result of comments staff received. It is important to note that these suggested changes will be subject to the 15-day comment period to ensure that the public has the opportunity to provide input.

In conjunction with the effort to develop these
amendments, ARB staff has been conducting educational outreach. Staff developed several formal programs including the EVs for Education and the EV loan program. Staff used these events to answer questions, not only about the EVs but also about the regulations and where they are headed.

These programs put ZEVs on the streets in areas that might otherwise not have had ready access to them. Through these programs, staff provided everyday citizens with the opportunity to become involved in the process should they so choose.

This concludes my comments regarding stakeholder outreach for this item.

CHAIRPERSON LLOYD: Thank you very much. Any board members have questions, at this time?

Ms. D'Adamo.

BOARD MEMBER D'ADAMO: I had the question regarding the numbers. It was my recollection at the September hearing that several board members raised the issue of inclusion of SUVs in the base line. And I note that that appears to be absent in the staff's recommendation. I was wondering if you could address that. And also if you could provide us with information as to what the figures would look like if you did include SUVs in the base line.
EXECUTIVE OFFICER KENNY: I'll try to address the first part and then I'm going to actually ask staff to help with the the second part in terms of the numbers.

We did not include SUVs in the base line at this point in time, although several board members actually did raise it as an issue at the September hearing.

The concern we had, at this particular point in time, was that we were trying to essentially look at the way to introduce the vehicles into the market with the sustainable market acceptance. The concern we had is that if we introduce SUVs into the base line now, is that we actually increase the volumes too early on in the process, and so that was the primary rationale for not including them.

In terms of assistance with the numbers.

VEHICLE PROGRAM SPECIALIST SHULOCK: The implication if you did that today, based on 1999 sales data, it would expand the universe of vehicles subject to the program by about 65 percent. We took the look at what would it mean in the out years and it's difficult to really have much certainty because the numbers have bounced around the little bit.

But as the rule of thumb, it would be an increase of on the order of 50 percent, 60 percent to the base line.

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BOARD MEMBER D'ADAMO: Perhaps we can explore this issue as the day progresses, but I'd like to maybe see some information if we were to start it in the year 2003, 2004 et cetera. Maybe, we could -- Is this better? I'm kind of short, so I'll try to scoot forward here. I was suggesting that if staff could provide us with some information as the day progresses regarding what those figures would look like if SUVs were included in the base line in various years starting of 2003, perhaps maybe consideration of startup in 2009 or some future date.

EXECUTIVE OFFICER KENNY: Okay.

CHAIRPERSON LLOYD: Thank you. Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah, I also kind of had an immediate kind of reaction to the drop in numbers. And one of the things that I think was really well done that came out of the September meeting is that many of the technologies that developed in the first decade found their way into the staff proposal.

However, there's kind of the set of vehicles that didn't make it in that I'd be interested in how -- in the discussion about how we include them. And that would be I've been struggling the last several days with the way to categorize them, but I would think that they would be something like electric motorcycles that are freeway...
And what I'm really seriously getting at are vehicles similar to the Sparrow that the commuter can use to get the work and back that's the ZEV, that's the zero emission vehicle. And I'm not sure, given that they're single passenger and there are some limits, that they ought to get huge credits, and there's also some -- we would have to have the discussion about how credits are transferable or bought and sold. But I'm really interested if there's any thought into how we would include that category of vehicles.

EXECUTIVE OFFICER KENNY: We originally left that category of vehicles out of the proposal. And the primary reason was that we were looking at vehicles as opposed to motorcycles was number one. Number two, the definition of motorcycles was actually far broader potential. And there was also the possibility that far more types of vehicles could be brought into the proposal.

Additionally, we were concerned about the fact that if you go into the motorcycle credit proposal, the production costs, the certification costs, the safety issues associated with those are far different than with the vehicle, and so the costs overall basically come down. And it could be potentially the very low-cost compliance strategy which was of concern to us.
However, as we have looked at it, as we have actually heard of this issue, there may be ways to try the address this in the context of actually, you know, credit that would actually be at fairly low levels to reflect, in fact, sort of that differential between production of the vehicle and production of that type of the transportation thing.

BOARD MEMBER McKINNON: Yeah. I think it's an opportunity for us to be able to provide an alternative to consumers that's the low-cost ZEV. And I don't know that we want to give it the same kind of credit, but I certainly want to look at that.

CHAIRPERSON LLOYD: Dr. Burke.

BOARD MEMBER BURKE: Before I even get to the merit of the staff's proposal, I'd like to congratulate the ombudsman on setting the record on the outreach. What concerns me is what I see today. And I'd like to just maybe get some input, because when you talk about stakeholders and concerned citizens, I assume that those people who are environmentally justice challenged should be as concerned about this issue as any other group in the State of California.

And yet, as I look out over the audience today of those people who were going to testify before us, I see the puzzling lack of minorities in the audience. And I
just wondered if it's the failing of us or the failing of
them that they're not here. Can you help me out with
that?

OMBUDSMAN TSCHOGL: I would like to address that.
And one thing that I would like to explain is that there
are the number of programs that ARB is involved in and
many of them are directly focused on those neighborhoods
that you're talking about. And, for example, the
neighborhood assessment program, the children's
environmental health program, diesel risk reduction
program.

There are the number of programs that are
developed and they are absolutely targeted to those
communities and those people are involved. This one was
not necessarily targeted to that community, but they were
certainly welcomed and notified.

BOARD MEMBER BURKE: Was that an answer to my
question? What I'm trying the find out is why I don't see
more black and brown faces out there. And I understand we
have programs that are targeted to those communities, but
this is an important issue to everybody. And if I would
extrapolate from what I see, I would think that there is
no interest in those communities and I don't believe that.
And I believe that some of the legislators who are going
the testify today will not express those concerns.
I know we have those programs, I just -- is there the reason why there is the lack of representation today? And if you don't know, we don't know.

Mr. Kenny?

EXECUTIVE OFFICER KENNY: Yeah, I'm going to try to take the stab at this. I don't know the answers to the question. And I'll basically -- but I would say essentially that I think all the communities in the state of California and probably throughout the country actually have the very strong interest in clean air.

And what we have been trying the do with this program and with the other programs is to reach out the everybody so that we can basically give them an opportunity, whoever they may be and wherever they may live, to participate in these programs and to ensure that, in fact, we are addressing the issues that they do care about.

And my assumption there is though that everyone is caring about clean air and that clean air is the goal that we all strive to achieve.

CHAIRPERSON LLOYD: I would also like the comment there. And I know your comment, Dr. Burke. I know you've made significant efforts in South Coast with your leadership to get out in the communities. We have also held three workshops down there. And we're doing -- not
three workshops, three outreach efforts. And we also have board meetings down there as the result of the resolution from Assemblyman Firebaugh.

But it's clear we're not doing enough, I agree, but I think we're making significant efforts, but we need to do more. And clearly, I also would like to work with you on that to make sure we get these communities, vis a vis, you know, the response from some of the communities in terms of the environmental justice, I think what we've seen, and all the Board Members have copies here, that we, in fact, get the lot of letters in support of this regulation, and they're aware of the Zero Emission Vehicle Program.

We also have some letters in there which are not happy. And so I think we've got the spectrum there. But I'm sure will hear more from our Assemblyman colleagues when they testify, but clearly we need the do better.

Mr. McKinnon.

BOARD MEMBER McKINNON: Board Member Burke, as the labor leader, I'll throw an observation I have when it comes to kind of addressing this question with working people is that very, very often with working people when the meeting is held the the middle of the day and people are hourly workers, it's very, very unlikely that they're going to attend the meeting in the middle of the day.
And I think, you know, at South Coast you have some evening meetings. We're going to have some evening meetings and I think that's real important. And I know, at least one of the ZEV review meetings, that I attended, we went till almost 9:30 at night to make sure that there was an opportunity for people that maybe are working during the day to get to the meeting.

So, you know, I think we kind of follow that model.

BOARD MEMBER BURKE: I think you're absolutely right and I just think that maybe we should try and do some more night things in places that are accessible.

Thank you very much, Mr. McKinnon.

CHAIRPERSON LLOYD: Mr. Calhoun.

BOARD MEMBER CALHOUN: I guess I had the couple of questions to ask relative to the comment that Dr. Burke made. Usually the largest black newspaper in Los Angeles County is the LA Sentinel. And I never see any notices of hearings from the Air Resources Board published in that newspaper. I see notices from the South Coast District.

And I've mentioned this once before at one of our meetings, and so that's something I think we ought to take the real good look at.

CHAIRPERSON LLOYD: How long has this paper been around.
BOARD MEMBER CALHOUN: Before you and I were born.

(Laughter.)

CHAIRPERSON LLOYD: Obviously.

BOARD MEMBER WILLIAM FRIEDMAN: That's the very old newspaper.

(Laughter.)

CHAIRPERSON LLOYD: You've been on the Board the long time, so you haven't had much success at getting the Board -- when did you last bring this to staff's attention that we could --

BOARD MEMBER CALHOUN: I don't know. I mentioned it at one of the meetings. I don't know how long it's been, but sometime within the last year.

CHAIRPERSON LLOYD: So okay.

BOARD MEMBER CALHOUN: But I do see notices from the South Coast District in there.

CHAIRPERSON LLOYD: Okay. I'm sure we'll rectify that.

BOARD MEMBER CALHOUN: May I go ahead with the questions I had planned to ask?

I want to talk a little bit about the market for these vehicles and this is going to come up anyway and you brought it up in the terms of the fair market test that the automotive industry raised. What is our
knowledge of the market for these vehicles, in particular, battery powered electric vehicles?

EXECUTIVE OFFICER KENNY: Well, we're primarily not the marketing agency. And so our knowledge is going to be limited. However, what we have seen to date is that the number of EVs that have been produced are in the hands of individuals who are using them.

We have also seen strong expressions of interest in the purchasing of EVs by the number of people who do not have them. However, you know, whether they will actually carry through on those purchases, you know, time will tell.

What we are trying the do is essentially propose to you the program that does balance sort of the desire to put the technologies into the marketplace and give that marketplace an opportunity to embrace them. We have tried the essentially recognize that there are costs associated with this technology, there are going to be, you know, market issues associated with this technology and with all technologies. And so the goal has been to approach it from the very balanced perspective and provide the opportunities for that market to develop in the way that gives us the best chance of success.

And to the great extent that's why you've seen the staff propose numbers that are at lower levels than
the existing regulation, because we think it's also
important to essentially build this market. And the way
we think we can build this market, and, again, I would, I
guess, highlight the fact they we are selling 1.4 million
vehicles the year in California.

The way we can build this market is essentially
the bring these technologies in to provide opportunities
with regard to the varieties of technologies. And there
are people out there who are going the take them. And
then what's going the happen is that as the neighbors --
individuals who buy these newer cars see them, they're
going the probably be interested, they're going the ask
questions, and we will be able to sort of fan the flames
and build kind of the larger fire of interest for all
these advanced technology vehicles, whether they're EV's,
whether they're fuel cells, whether they're advanced
technology vehicles.

And that really is our goal and our effort here
today. But we can't guarantee essentially where that
market might be. And so what we've tried the do with the
staff report, and you see it the little bit in the
complexity of the staff report, is provide the opportunity
for diversity of opportunity with regard to the
technologies. So that as we move down the road ten years,
15 years, we will have the diversity of technologies that
are satisfying our transportation needs the California.

BOARD MEMBER CALHOUN: I raised that question for
two reasons. One Detroit based auto manufacturer has told
me that they did an extensive analysis of the market and
is absolutely convinced that there's no market there
for -- talking about pure battery powered electric
vehicles and is primarily because of the range, but we
know that the lot of improvements are being made the
battery technologies, so maybe in the future that will no
longer be the case.

But their main concern was they didn't want to
spend anymore money on that type of vehicle. Now, let me
add to that.

The proposed regulations before this board today
are significantly different from what the Board has dealt
with in the past. And I say that because in the past the
regulations required the manufacturers to produce and
offer for sale, but these regulations require that the
vehicles actually be placed in the market. So, in effect,
the saying that they have to be sold or given away or some
other way. So it's somewhat different than what has
happened in the past. Would you care to elaborate on
that?

EXECUTIVE OFFICER KENNY: Yes. With regard to
the first point, we have also heard from some of the
manufacturers that, in fact, they think there's absolutely no market for electric vehicles. However, we have heard from other manufacturers the contrary opinion. And so we do see, essentially, the variety of opinions with regard to the opportunities for battery electric vehicles in the marketplace.

And to the extent that we have that variety of opinions, I think it does basically say that no one knows the exact answers to this particular issue and that what we need the do is take the shot with the market and see what the market actually determines the answer to be.

With regard to the second issue, of not giving multiple credits unless the actual vehicle is placed for sale, actually placed into the marketplace.

What we have actually thought about on this is that we are reducing the number of vehicles in our proposal from the existing numbers of 22,000 battery electric vehicles, for example, in 2003 down to the number that is roughly the fourth of that, in fact probably even the little less than that.

And to the extent that we are going to have the shot at the marketplace, we need the have those vehicles not just simply offered for sale, but actually placed in the marketplace, so that, again, individuals the use them, individuals can see them and individuals the see the
benefits of them.

And so our view was that if we're going to provide these substantial multiple credits, the rationale behind that is we want the vehicles in the marketplace not just simply on the page in the book somewhere or on the lot sitting somewhere, we want to actually see them being used and providing the benefits we think may be there.

BOARD MEMBER CALHOUN: One last point, Mr. Chairman. The auto industry proposed what they call the fair market test. And the staff is opposed to that test, for the number of different reasons. And I wondered if the staff has considered some alternative to that as the means of evaluating the market?

EXECUTIVE OFFICER KENNY: Well the alternative that we actually did consider the one that we have propoded to you for today. We did actually have the lot of discussions with the auto industry about the fair market test. And we had discussions, essentially, in its earliest iterations and then we had discussions with them in its later iterations. We were fundamentally opposed to the fair market test.

We thought it was the flawed proposal. We thought that what it did was, essentially, eliminated PZEV technology and advanced technology PZEVs that we do think are quite viable right now today, and I took them off the
We also thought that, in fact, it was important to maintain the regulatory drive for these vehicles. We thought that that was important for technology forcing and also for the integrity and credibility of the California program. We were also concerned about the fact that the fair market test had an independent panel, which was going to essentially make the determination as to whether or not the market accepted or rejected the vehicles based on the set of criteria, which we actually thought was going to result in the designed failure.

In the end, we also thought that, in fact, the opportunity that the fair market test would have provided was essentially the flawed one. And so, although we had the number of discussions about it, and we did debate the issue fairly vigorously with the auto industry, we couldn't come to the point where we thought it was viable or reasonable or feasible.

BOARD MEMBER CALHOUN: I may want to come back to the market question, not necessarily the fair market test or anything of that type, but I may want to come back to that issue.

CHAIRPERSON LLOYD: Thank you. I'm sure we'll hear some more of that.

Supervisor DeSaulnier.
BOARD MEMBER DeSAULNIER: Mike, I think we all have grown to appreciate that sensitivity of -- I'm talking just in terms of the goal standard of the pure ZEV, in the early years. But could you talk the little bit about what your staff discussion was like in terms of the ramp up and what we might look at in terms of any kind of movement in that and why you chose the numbers you did, particularly in the years -- the mid-years say six to 2010, and what kind of effect that might have on the development of fuel cell technology?

EXECUTIVE OFFICER KENNY: We chose the ramp up numbers essentially as the way to truly try to -- I'm going the steal Chuck Shulock's analogy, because I think it's the good one. What we tried to do was essentially build the fire. And we thought it was very important that as we build this fire that we start off slow, the little bit of kindling, the little bit of, you know, flame and kind of fan it and basically build it to the larger fire that we all wanted to see here.

We thought trying the do that with large numbers right now in the 2003 context would potentially result in substantial problems. And we thought that because of the fact that we don't have any vehicles really being offered for sale right now, because the market is essentially not being taken advantage of by the auto manufacturers.
So we thought it was important to, sort of, get the market going again, kind of build that market. We also thought it was important the build it at least initially somewhat slowly, and that's why you see the numbers that we have put forward.

We also had another artifact of the proposal that we're making to you, that sort of factors into this. In order the provide the level of certainty into the program and in order the provide the level of development of the ramp, we made our proposal in the context of three-year increments. And so the first three-year increment is essentially the '03 through '05 time frame. And then second one was '06 through '08, and, you know, successively like that.

We that it was important to be very successful in the first three-year ramp -- the first three-year period. We also thought it was then important to build upon that with additional increments, but not so large that, in fact, we had the potential for smothering the market. And so that's why you see kind of the ramping that we have.

In the outer years I guess with, you know, the benefit of, you know, looking at this, it's possible that maybe we could have gone the little bit further. And I'm thinking about in terms of years beyond 2008. But what we were trying to do is essentially be cautious, conservative
and ensure that, in fact, what we did is built demand and not really come into the market too early on with oversupply.

BOARD MEMBER DeSAULNIER: What about the concern and development of fuel cells?

EXECUTIVE OFFICER KENNY: Tom reminded me of that also.

BOARD MEMBER DeSAULNIER: Thanks, Tom.

(Laughter.)

EXECUTIVE OFFICER KENNY: We actually thought that what would happen to the great extent with our proposal is that fuel cells would continue to be incentivized. And the reason for that is that we tried to develop the proposal in the way that we provided for differentials in the credits based on the types of technologies that were being used and the costs that were associated with those technologies.

And so as basically the ramp occurred, the credits basically were diminished over time. And we thought that what that would do the provide for greater incentive for the continued development of fuel cells.

BOARD MEMBER DeSAULNIER: Just one last question, although all of us are going to miss these meetings every other year --

(Laughter.)
BOARD MEMBER DeSAULNIER: -- knowing that there's going to be lots of changes during the course of this and particularly as I've told you my interest in station cars and trying to do sustainable infrastructure for our transit systems, how will we track and sort of partner with advanced technologies, particularly in allowing for credits for systems that help the transportation system?

EXECUTIVE OFFICER KENNY: You and I have talked about essentially the station car concept. And actually we do agree with you, that it's the very good proposal. And so we would like to, essentially, work toward that with you in terms of trying the figure out how we can implement that as effectively as possible. One of the things that we've tried to do with this proposal is to take the ZEV Program out of the every two-year focused spotlight where it became, kind of, the cause celeb for the moment and it generated the kind of attention that really was more, you know, good and bad. It's either people love the program or people hate the program, and try the move it instead into more of the routine program, in which what we're doing is we're moving it forward progressively and then we bring back to you, kind of, the routine modifications that need to be made to reflect implementation issues. That really has probably been the thing that this
program has most lacked. I mean, over the last several years, we've done these biennial reviews. And every time we do the biennial review, the program comes to somewhat of the halt. Everybody then stops, they watch and they see whether or not we're going the continue with the program or whether we're going to just simply end the program.

And the Board has been consistent. And the Board has said that the program will continue, but each ayear period that has arisen has resulted in that same consequence. I think for the future, we need to continue the work this program, but it needs to be more routine like every other program that this board has. And we need the bring back to you the smaller issues that are essentially associated with implementation and not the big issue about should the program continue or should the program die.

BOARD MEMBER DeSAULNIER: Thank you.

CHAIRPERSON LLOYD: Supervisor Roberts.

BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

First of all, just as an observation, Mr. Kenny, when you started out you made the comment that we provide the lot of options. There's the lot of complications in this. Somehow we have taken the dream of electric vehicles and clean air and we've turned it into the
1 Internal Revenue Code here today.
2
3 (Laughter.)
4
5 A complexities in this and the various
6 permutations and combinations are very difficult to
7 follow. I may be among the minority on this board that
8 does not have the real clear picture of what happens in
9 2010, but I guess there are so many options, we don't
10 know, other than we know perhaps the result, at least the
11 hopeful result with respect to clean air. But what that
12 is going to look like, I wouldn't want to begin to explain
13 to anybody.
14
15 I'll have other questions later, but one of the
16 things that struck me as I looked at the current
17 regulation and the staff proposal, the grid connected
18 hybrid electric vehicles, you ended up putting those in
19 the top category. And yet that from the technology
20 standpoint seemed to me to be not on the same level with
21 the battery EV's and hydrogen fuel cells. And I was
22 wondering what the rationale was for that.
23
24 EXECUTIVE OFFICER KENNY: Sure. A rationale we
25 had was that we actually thought that that technology was
26 the very valuable one. We saw it as the technology in
27 which the vast majority of trips by the person who owned
28 that kind of the vehicle would occur on the electric
29 range, whether they're commuting back and forth to work or
whether they're doing short trips on the weekend.

And so since we saw the 20-mile all electric range as being of substantial value, we thought there was the good reason to incentivize it.

We also recognized that there really wasn't the lot of work going on with regard to that technology at the this particular point in time. And that for it to occur, we would need to have some substantial incentive for that to actually be generated.

As we looked at the different technologies that were out there, we saw essentially the gasoline PZEVs covering pretty much the six percent increment. We saw the hybrids, the non-grid connected hybrids really taking the substantial portion of the two percent advanced technology section. And so we thought what was going to happen it was going to be the technology that was not incentivized and would potentially fall off the table.

And, again, we thought it was the very valuable technology. This was the way of trying to provide the incentive.

BOARD MEMBER ROBERTS: You didn't feel comfortable that if it was in the lower or the mid category, one step down, that that would incentivize it to some extent.

EXECUTIVE OFFICER KENNY: A difficulty that we
saw is that we are trying the basically provide, going back to your earlier comments, kind of the diversity of opportunities for the marketplace, so that as we do go out into the future, we won't have just simply the simple technology, which is providing the transportation needs. I think that is part of the dream that we see. But at the same time what happens is that there are engineering resources that are necessary to make that dream come true. A difficulty is that unless we provide substantial incentives for different types of technologies, those engineering resources may not exist, and then they therefore may not be utilized for these kinds of technologies that we think have benefits.

BOARD MEMBER ROBERTS: Well, I'll be interested in the testimony, but I'm -- there are the number of things that jump out at me and that is one of them, and in spite of his wonderful answer --

(Laughter.)

BOARD MEMBER ROBERTS: -- I'm still not comfortable that that belongs in the same category with the battery or the fuel cell operation. We'll have further discussion on this.

CHAIRPERSON LLOYD: Professor Friedman.

BOARD MEMBER HUGH FRIEDMAN: I just want to follow up on Supervisor Roberts' question. I'm still not
entirely clear as to why the plug in hybrid with the 20-mile electric range is the gold standard as opposed to the silver standard and why that wouldn't be sufficient incentive.

EXECUTIVE OFFICER KENNY: It was our assessment that, in fact, it wouldn't be sufficient incentive, because we thought that on the silver standard, the manufacturers would primarily take advantage of the existing hybrid technologies which are being developed. We don't see the lot of development occurring right now with regard to the plug in hybrid.

And so our goal was to provide the substantial incentive. And clearly the gold standard area is the substantial incentive to essentially try the pull that technology into the marketplace.

In terms of putting the plug-in hybrid in the silver cat category, I guess it could be possible to provide the substantial incentive if, in fact, the credits were, you know, quite enticing, you know, far more so than for example some of the other technologies that are in that particular category.

BOARD MEMBER HUGH FRIEDMAN: Just to follow up. If I understand the plug-in hybrid will still pollute, at least when it's operating on the internal combustion.

EXECUTIVE OFFICER KENNY: That is correct.
BOARD MEMBER HUGH FRIEDMAN: And the gold standard is zero emissions.

EXECUTIVE OFFICER KENNY: That is correct. And part of the rationale we had there was that we were looking at the plug-in hybrids the little bit as range-extended EVs, where we have seen electric vehicles that do have essentially maybe the small trailer or something like that with an IC engine on them that are pulled behind, you know, to extend the range beyond whatever the battery range may be.

And so we did also rationalize it the little bit that way, which is that instead of basically pulling the trailer behind, we actually put this trailer inside the vehicle.

BOARD MEMBER HUGH FRIEDMAN: And have you considered that that could disincentivize the pure EV battery electric? In other words, it presumably is somewhat less expensive to make the hybrid, at least given present battery technology and what we're told, would we end up with all plug-in hybrids in the gold standard?

EXECUTIVE OFFICER KENNY: We would hope not. I mean, and part of the reason that we tried -- part of the way we tried to address the is we tried to essentially provide for the fact that they would not get the same credit, for example, as the fuel cell vehicle or the
battery electric vehicle would get in the context of that particular category.

And so we did, again, try the scale them in that category, so that the cost would be reflected, at least in the amount of credit that was generated, for example, for the plug-in hybrid and then you would get far more credit if you had the fuel cell vehicle or if you had the battery electric vehicle. So we did try the take that into account.

This is an issue that has actually had the lot of discussions since the staff report has come out. And there are the number of individuals who have expressed concern about the fact that we actually are disincentivising fuel cells and battery electric vehicles by having proposed this.

CHAIRPERSON LLOYD: I'm one of those who would go to that side, because, again, I get on the hybrids. I love the hybrids. I think they're the great technology. We want to encourage them, but I am disturbed about putting them in the top category. And there are national programs, the DOE with the auto industry on hybrid electrics. And I'm sure there is also major support from the energy companies in keeping gasoline there.

And I think on that part of it, we lose site of the most immediate impacts that we have when we're looking
away from the gasoline. So I think it's important, so I share with my colleagues the idea of trying to keep that thought pure.

On that part, I would also like to say, you know, staff presentation sure directs methanol fuel cells as the second category. I guess one could argue if we, in view of new data, that one could say that they could also qualify at the top category if there are no emissions. I recognize that's an effort and that has to be demonstrated. But if the industry comes forward and shows that, I presume that they could also qualify, which again would give us another quiver to our bow in terms of the overall family of technologies.

EXECUTIVE OFFICER KENNY: I actually would tend to agree with you. I mean, I think it is the situation in which if, you know, we don't know everything about the direct methanol fuel cells at this point in time. But it is easy essentially to recognize that they may fit into that zero emission gold category or they may fit into that silver category, and what we should really probably do is recognize that opportunities for both of those exist depending on what the emissions are.

CHAIRPERSON LLOYD: And the other part, I think I know this board has been accused by some quarters of rubber stamping staff's recommendations. I think you know
better than that.

But I think --

EXECUTIVE OFFICER KENNY: It didn't seem like it last month.

(Laughter.)

CHAIRPERSON LLOYD: I am confused by what I read coming out of some of the press and some of the trade press and some of the news releases that, you know, this big announcement by Toyota and General Motors who have great technology on fuel cells, that they can get fuel cells into the market as early as maybe 2003, 2004 time frame.

How do we then say that -- how do we say to the public here, why do we deprive them of that opportunity, and if you'd like some encouragement to get them into our marketplace at least five years later, rather than -- not five years later, five years later from now into that, you know, after 2006, 2008 timeframe.

Is there any -- something's wrong here, either those releases are incorrect or we're incorrect. And I guess I won't ask you the questions, Mr. Kenny, because obviously we have representatives from both companies here and we get the chance to ask them firsthand. But that's something curious to me that there's the disconnect.

And then we listen to some of the technology
developers involved with that and they also paint the much rosier picture, so I'll be very interested to see what comes forward there.

Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah, I want to go back to the plug-in hybrid just for the second. And I certainly can live with what appears to be the direction of heading towards the silver standard rather than the gold standard for the plug-in hybrid. But I don't think it should go any lower and it seems to me that the value of the plug-in hybrid is this, certainly in my family we would not buy the car to do long distance trips and the separate car to do short distance trips for each one of us. You know, we wouldn't each have two cars.

And the value of something like the plug-in hybrid to me would be that your tendency would be to commute and to go shopping during the weekend or whatever on electricity. And when you need it to move further, you'd use the gasoline. And I think that's qualitatively different than some of the other hybrids.

It's, I think, the close comparison. People buy vehicles with four-wheel drive and they pay extra for the four-wheel drive and they don't run in four-wheel drive but the few times the year. And so I think the plug-in hybrid has the chance, if anybody pursues that technology,
of being the popular technology, because it will do both
things for families.

MOBILE SOURCE CONTROL DIVISION CHIEF CROSS: Can
I just one -- I've been listening to all of this
discussion and I can't stand it.

A reason that it's important to move the plug-in
hybrid up is because of the incremental cost of adding the
expensive battery to the vehicle. In other words, if you
look at the silver standard hybrid, they don't have
significant range, which allows them to minimize battery
cost and you need to have some incentive for the
manufacturer to spend the extra money in the vehicle
design and production to pay for the more expensive
battery.

It sort of, if you don't treat them specially,
then you run some risk of the vehicle not getting created.
And I think that's --

CHAIRPERSON LLOYD: Again, I would assume that
the staff can also be sufficiently creative to accommodate
the Board's wishes and your wishes.

MOBILE SOURCE CONTROL DIVISION CHIEF CROSS: I'm
sure we can.

CHAIRPERSON LLOYD: Thank you.

Any other questions?

With that, I'd guess we move into the witness
list. I would like to -- we have the number of witnesses, so I'm going to limit those to about three minutes.

Obviously, I'll use the Chair's discretion depending on the witness list. We do have two Assemblymen signed up to speak. We have Assemblyman Tony Cardenas and Assemblyman Marco Firebaugh. So if they're here, we will certainly be -- like the hear from them. If they're not, and they come up during the time, then I will obviously interrupt the witness list to make sure that they get the chance to testify.

I guess seeing that they're not here at the moment, I would like to remind the witnesses that we have limited time as I mentioned. Please sign up if you're not already signed up. I will try the keep most of the witnesses to, as I mentioned, about three minutes. I have the timer. I recognize some of the people upfront from the auto industry may take more than that.

And certainly I would like to accommodate them there. On the other hand, I would ask them to make their points as clear as possible and short as possible.

So we have signed up here Carl Johnson, New York State, Kelly Brown, Ford, and Jo Cooper, Alliance of Auto manufacturer, then Tom Austin, Sierra Research, Jim Olson of Toyota. That's our first five, so if we could start off with Carl.
Welcome Carl from New York.

MR. JOHNSON: Thank you Dr. Lloyd. Thank you

members of the Board, CARB staff. My name is Carl
Johnson. I'm not sure if I'm getting this well enough for
the folks in the back. I am the Deputy Commissioner for
Air and Waste Management at the New York State Department
of Environmental Conservation.

I appreciate the opportunity to testify today in
support of California's proposed adoption of amendments to
the zero emission vehicle requirements. As you may know,
Governor Pataki the strong proponent of advanced clean
vehicle technology and has directed the Department of
Environmental Conservation to utilize the authority under
Section 177 of the Clean Air Act to implement the
California ZEV Program.

I also want to thank California for its overall
leadership on air quality issues. A Authority in Section
177 of the Act has allowed us to adopt the LEV program for
light-duty vehicles and we have benefited greatly from
that ability.

Your leadership on diesel issues, which is when I
was last before this board, is also to be commended. And
we look forward the working with you on air quality issues
and contributing our resources to that effort. And I
think over the past couple of years, special compliments
to the staff of the Board. We've really brought the
coasts together on air quality, and I think that the
Nation is going the benefit as the result.

        New York previously adopted the LEV program for
light-duty vehicles including the ZEV mandate, and has
recently completed adoption of the LEV 2 program for light
and medium duty vehicles, effective in model year 2004.

        A very attractive component of the LEV program is
the technology-forcing aspect associated with this ZEV
mandate. It is this component that continues to drive
automobile manufacturers to develop and commercialize
cleaner, more durable technology.

        This is evidenced by the technology that has been
developed already, even in advance of the broad scale
mandate. The efficiency of electric systems has improved.
The efficiency of electric systems is improved. A storage
battery technology continues to benefit from research, and
investment that likely would not occur absent the mandate.

        A fruits of this effort are being seen in
mainstream automobile technology. A sale of hybrid
electric drive passenger cars by Toyota and Honda, the
announcements from many of the major automakers of hybrid
models are clear evidence that we're all going in the
right direction.

        Few would argue that the mandate has not had an
impact on the evolution of these technologies. We would not be talking about hybrids today if we did not have California's ZEV components.

Now manufacturers are identifying possible fuel cell vehicles that will be available in the near future. Continued development in this area may result in benefits even beyond the air quality improvements that necessitated the program in the first place. We'll see benefits in areas such as energy supply, global warming, fuel diversity and fuel efficiency.

In developing the proposal before you today, staff has included significant flexibility from manufacturers in meeting the objectives. Perhaps some of it is complex, but we strongly support this aspect of the program recognizing that different manufacturers have different strengths, both in development as well as in product lines.

That flexibility is also important to the states outside California that have adopted this program. Climatic differences, vehicle sale mix and use are different in the northeast than in California. And the flexibility of the program that's before you today will allow our state to provide additional flexibility as we work with the automobile industry to assure successful implementation of the ZEV Program.
We have spoken to industry members and we've asked them to tell us what they really need to make ZEV implementation work in the northeast and we're awaiting their answers. And we stand willing to work within the constraints of the program and the Clean Air Act to ensure that we're all successfully going together.

We recognize that all the California LEV states need the work together to make this program successful and that we cannot get there without being sensitive to the changing technologies and public demand, but we will not miss this opportunity to make vehicle technology cleaner and more efficient in the future.

Thank you.

CHAIRPERSON LLOYD: Thank you very much indeed. Again, I would reiterate my comments are to thank you personally, the Governor and also Mike Kenny for the efforts to work together. I see this great partnership as we see on diesel and on this issue as well.

While you're here, I know you're going ahead with some major purchases of clean buses. Are those zero emission buses or how close are they to that?

MR. JOHNSON: We are working on the number of efforts with New York City's Metropolitan Transportation Authority, the largest bus fleet in the country. They have primarily focused, and much of the local focus, has
been on converting the significant portion of the fleet to compressed natural gas vehicles. At the same time, we have been driving them through the research effort and we've been sharing this information with the staff on the tremendously promising diesel retrofit technology, which our initial investigation really shows is going to bring existing diesel buses into the same range, very close or even exceeding where we are with the new CNG bus. So by the year 2003, the entire fleet will be as clean as the CNG bus.

A ZEV vehicle technology with MTA we are also investigating, but we have seen this as such the promising area for us. We don't have some of the mix of electric and tramways and the other things that you have out here. We're strictly the rubber engine based fleet at this point. And we're proceeding on that, and we really believe that by 2003 we'll have the cleanest bus fleet in the country.

CHAIRPERSON LLOYD: Thank you very much. Any questions from staff?

Thank you very much, Carl.

Just the heads up for the staff here. I'm certainly interested in how we might factor zero emission buses, whether they're battery electric, fuel cells, hybrids into our program to give some additional
flexibility there, but we'll get back to that maybe and
explore that.

BOARD MEMBER BURKE: Mr. Chairman.

CHAIRPERSON LLOYD: Yes, Dr. Burke.

BOARD MEMBER BURKE: I was also wondering, you
know, I'm fascinated by this trap system that obviously --
are we working in conjunction with them and have we gotten
some of our California transit systems evolved in this?

DEPUTY EXECUTIVE OFFICER CACKETTE: Yes, we have.

As you know, the Board adopted the retrofit trap system
for all transit buses starting in 2003 and I believe
ending three or four year later. Actually, what I
understand New York has adopted is more aggressive.
They'll be done in the year that we start.

But the two programs have the same goal of taking
all of the existing Diesel buses and using this retrofit
technology on them.

BOARD MEMBER BURKE: But the traps that they're
testing, are we testing similar traps or the same traps?

DEPUTY EXECUTIVE OFFICER CACKETTE: Yes.

BOARD MEMBER BURKE: We are testing the same
traps?

DEPUTY EXECUTIVE OFFICER CACKETTE: Yes.

BOARD MEMBER BURKE: We are. Okay, great.

CHAIRPERSON LLOYD: Thank you. We're going the
take one more witness before we give our court reporter
the ten-minute break. So Kelly Brown from Ford.

MR. BROWN: Thank you, Mr. Chairman and members
of the Committee.

(Thereupon an overhead presentation was
presented as follows.)

MR. BROWN: Allan, do you rig this every meeting
that you mess up my slides?

(Laughter.)

CHAIRPERSON LLOYD: Only if they're positive
comments to stay on.

(Laughter.)

MR. BROWN: The first rule of testifying, never
ask the question if you don't know the answer.

(Laughter.)

The facts haven't changed since the September
hearing. Let me start out with the summary slide from my
September presentation.

--oOo--

BOARD MEMBER HUGH FRIEDMAN: Could I ask, Mr.
Chairman, can we get these lights off?

Thank you.

CHAIRPERSON LLOYD: I don't think that light
works. And it's not the conservation measure, I don't
know what happened.
MR. BROWN: Maybe ask the Governor to unplug his toaster.

MR. BROWN: I can see all right. ZEV costs and functionality are not competitive. Battery technology is not yet where it needs to be and is not yet projected to get there in the near future. 2003 was too early for PZEVs. The air quality benefits of the program, the ZEV portion, were small. A too few customers and the mandate isn't achievable at the level and the current regulation.

MR. BROWN: Staff has addressed most of these concerns in the proposed regulatory revisions. We believe their proposal is workable in the near term, more unpredictable in the longer term due to the speculative nature of the technology, and it fails to address sales in other states, especially cold weather states satisfactorily.

MR. BROWN: Next I want to move into our position on pure ZEVs, PZEVs, other states and finally what we need.
MR. BROWN: Staff has laid out the complex regulation, which provides flexibility in meeting the requirements and credits that ramp up ZEV introduction. And despite the considerable risk, we accept the challenge to meet the proposed requirements in California, at least in the near term up through the first three years, 2005. Decisions on requirements for 2006 and later are more speculative and we believe should be delayed.

MR. BROWN: Success depends on our ability to deliver exceptional vehicle programs on time, excel in markets that are new to Ford, and collectively we must build awareness and develop the persuasive package of why buy for the customers, such as customers want to buy the battery EV's. If we fail in any of these, we will fail to meet the proposed regulations. Further, future regulatory adjustments may be necessary primarily in the out years.

MR. BROWN: Just briefly through our products, this is the Ranger EV. We've sold about the little over 1,200 of those in 25 states since '98, nearly half in California. A bottom picture is another version of the Ranger, the first of the 500 Postal utility body versions that are going to be delivered in Los Angeles next week.
MR. BROWN: Next in our product lineup is the Think City, the European version is now being demonstrated in California and other areas. It has the 50-mile range, highway capable, two passenger and its niche the probably as the station car and shared car applications, as well as traditional users.

The US version goes on sale in spring of 2002.

MR. BROWN: This is the Think Neighbor. It's the low speed electric vehicle. It's available this year. It's the two or four passenger vehicle. And other versions are possible to be derived from that. It has the 25-mile per hour governed top speed, 30-mile driving range, and it's legal for the street in many states including California. Many of the -- it has the lot of opportunity to replace gasoline vehicle trips.

MR. BROWN: Next, and the little farther out, the Focus Fuel Cell vehicle that we just unveiled here in California. That prototype the demonstration service in California and pilot production is announced at low volumes for 2004. Volumes will probably be limited for some time, depending on how we do in getting the cost down.
MR. BROWN: Next, Escape HEV. It doesn't have the plug. It's not the grid hybrid. It's self contained. It's targeted at 40-miles per gallon, SULEV emissions, possibly PZEV 500-mile range on the tank of fuel, and it has an I-4 engine with the performance of the V6.

MR. BROWN: With respect to PZEVS, the staff proposed credit of PZEVS allows for the much more reasonable introduction of new technology. The remaining issues relate to OBD requirements and zero evaporative emissions requirements we believe have been worked out. The goal now is robust PZEV design. It's still not the done deal, however we have high confidence that we will succeed.

MR. BROWN: Applicability in other states. This is where we believe more work needs to be done, and I want to commend the prior speaker, the Deputy Commissioner from New York. We have had discussions with New York on the cooperative program as to how we can delay electric vehicle introduction in New York.

A cold weather concerns in the northeast present an additional challenge for electric vehicles. We're the little disheartened that all of New York's neighbors don't
share in New York's enthusiasm. And as you'll see in the minute, we believe that the failure anywhere the going to be the failure everywhere.

--o0o--

MR. BROWN: What do we need? There's the couple ways to deal with this, and this is really dealing with the state issue. Implement the first three years of the staff proposal under MOA's with the manufacturers or delay consideration of the rule for 60 days allowing time for the northeast states and the CARB staff and the auto industry to negotiate and try and satisfy the needs in the northeast for advanced technologies while still keeping adequate pressure on all parties.

--o0o--

CHAIRPERSON LLOYD: Thank you very much, Kelly. Any questions?

Yes Ms. D'Adamo and Mr. McKinnon.

BOARD MEMBER D'ADAMO: I just really would like to compliment your company for its vision and wish you great success. I think that the number of those vehicles are really going the take off, and I, for one, am really looking forward to seeing them on the streets in California.

Thank you.

MR. BROWN: We'll look forward the selling you
one.

(Laughter.)

CHAIRPERSON LLOYD: Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah. Mr. Brown, the same for me. You know, you've -- your company has worked diligently to prepare for the future, and I am very, very interested in, kind of the progress of the northeast states issue, and I'll say the state, Massachusetts. And I would like to stay advised if there's difficulties, Mike. And I think this board needs to kind of track that. To the extent that Ford is working at it, you should not have the lot of obstacles put before you or the delayed process.

Thanks.

CHAIRPERSON LLOYD: Supervisor DeSaulnier.

BOARD MEMBER DeSAULNIER: Kelly, first. This is the first time I think I've seen you without Sam, so if we pass this --

(Laughter.)

MR. BROWN: Right now, I wish I were with him.

(Laughter.)

BOARD MEMBER DeSAULNIER: If we pass this, you can be assured that you'll be retired before this issue is before us again.

Mike, maybe you could respond that we've got this
letter from Massachusetts. Supervisor Roberts and I as natives of Massachusetts understand the politics the little bit there.

BOARD MEMBER ROBERTS: Not me.

(Laughter.)

BOARD MEMBER DeSAULNIER: How could we -- well, I won't say the percentage of Republicans in Massachusetts, but it's small. How could we do this other than by -- because I'm not inclined, I don't know how my colleagues feel about the suggestions that Kelly has put forward, but like Matt I think we want to be sensitive to the issue.

EXECUTIVE OFFICER KENNY: Actually, I agree with you. And we're not inclined the MOUs as the staff. And actually we've had that discussion with the industry. We have been, though, trying the follow up on this issue of travel of the regulation to other states through the lot of cooperation and coordination with the states.

And we, just, I believe it was last week, a number of us met in New York and we met with the automakers. And we, being essentially -- I was there from California and then Carl was there from New York and then also Dick Valentinetti the Air Director from Vermont was present, which also has the program.

Both New York and Vermont were actually very constructive in terms of trying the look for ways to make
this work. Massachusetts was not present at the meeting, but shortly after the meeting, I did contact Massachusetts again and ask them if they were willing to be flexible in terms of how the program was essentially implemented in the State of Massachusetts.

And the response, essentially, was this letter on the same day that the request was made to the. And I think what that evidences is that Massachusetts the willing to be flexible and they are willing to work on this issue.

BOARD MEMBER DeSAULNIER: Kelly, do you read the letter the same way as Mike does.

MR. BROWN: I haven't seen the letter actually.

BOARD MEMBER DeSAULNIER: Well, I won't put you on the spot, but I think during -- when we get into the discussion about -- at the end of the public hearing, maybe we can have the little further discussion of how we help with cooperation particularly with that State.

CHAIRPERSON LLOYD: One of the things I would like to do, if possible, Kelly, with your indulgence here, we do have David Freeman, who just came in, but he's basically on loan to us for the limited time helping the Governor solve our energy crisis. So maybe, if you could take the minute the read that stuff, and after the break come back and maybe comment on that.
Court reporter, also, I'm going to take one more witness. So if you wouldn't mind, Kelly, and we might have some more questions.

David, I would like the call you up. This is David Freeman, the head of the Los Angeles Department of Water and Power. And as many of you recognize, he's been the visionary all through this, all through his career and he's been, I guess, the shining light in this hour of need in California.

And, David, we appreciate you spending time and we know that you're helping out at the highest level here on the electricity crisis.

MR. FREEMAN: Thank you. I want to make it clear that I'm appearing in my capacity as the General Manager of the LA Department of Water and Power and I'm not speaking in any other role at this time, just to be clear on that.

I consider it an honor, and I mean this sincerely, to appear before this body. Whether you realize it or not, each and every one of you occupy the seat that is revered in the world of clean air. This has been the leading agency in the country for the couple of decades in having the long-term vision, and not giving in to the hue and cry of the moment.

I had the privilege as the head of the Sacramento...
Municipal Utility District to appear before you in 1990, at the historic hearings where the CARB Board adopted the ZEV standard.

And I think each of you have every right to feel that you're collectively, if not personally, responsible for the fact that what is emerging is the family of cleaner cars. We should be proud of that. We should encourage all the hybrids, hopefully the fuel cells, which, by the way, have been six years off for the last six years.

(Laughter.)

MR. FREEMAN: But nevertheless they're coming. I don't mean to be sarcastic about it. It just takes the bit longer for some of these things to come through than we had hoped.

But the anchor, the fundamental proximate cause of all this array of cleaner technologies is the ZEV standard. And, you know, the appointees of Governor Deukmejian, the appointees of Governor Wilson and the appointees of Governor Davis, have all, over the long period of time, including as recently as September of last year, reaffirmed the fundamental program.

Now, I am just going to be very blunt. I think it is outrageous for people to come in here and try the take advantage of the electricity crisis that we face.
right now, as an excuse for slowing down the advance of progress in electric vehicles.

First of all, I think we all know that the electric vehicles are primarily charged at night when there is the surplus of electricity.

Second of all, if we only had what their -- I can only wish that we would have the 250,000 electric vehicles, but even then it would require the tiny fraction of one percent of our electricity. Folks, if we don't get this electric power problem solved in this State by 2003 and before, we won't have enough money the buy any kind of car.

(Laughter.)

MR. FREEMAN: So let's just put that, kind of, foolishness aside.

And, you know, there are very clever people that are being hired by very astute companies that say things that seem plausible on the face of it, but don't make the lick of sense. So let's just put that one aside.

(Applause.)

MR. FREEMAN: Now, in terms of the fact that we have the family of cleaner cars coming, hooray, you should be proud of that. You should claim credit for the fact that you have, by the force of your regulation, inspired the best in the automobile industry.
But that's no reason the throw out the cleanest of them all or delay. A automobile industry has had 11 years of clear notice from this agency to get electric cars on the road. I'm driving one. They've got some great products. In Los Angeles, there is the one-year waiting period to buy an electric car.

Don't tell me that there isn't the demand for it. My agency wants to buy more. We have all kinds of people that want to buy electric. They're not making the product. And that's just the fact.

Now, the saddest thing in the world is the lobbying that's gone on to get people who are sincerely concerned about the air quality problem with respect to lower income and minority people. That is the serious problem. It is not to be trifled with. It is an awesome problem that we need to pay the whole lot more attention to. But the fact that we might have the small percentage of the cars on the road that cause two-thirds of the pollution, cleaner is the cause for rejoicing.

It is not an excuse for not dealing with all the toxic problems and all of the problems that affect the lower income people, but do not trifle with something that's serious. Do not try the take advantage of the good feelings that people have and the guilt feelings that we should have. Let us just be straightforward, and I just
heard this morning before the Ford Motor Company, who I congratulate, and has been the leader, say that they can meet the 2003 requirements. It will be time enough in 2003 to reassess what the industry needs to do in 2004, 5 and 6.

You have got to keep the heat on or this whole thing will just dwindle away. And don't be telling me about New York State, I was in charge of New York Power Authority, and I persuaded the people in New York to make electric cars the part of their program, because it started here in California and I knew about it.

Now, you are the leader. They are the follower. And you have to keep leading, because if you don't, they won't follow.

Governor Pataki is the wonderful man and he's supporting the program and so is Governor Davis, but this board is the leader. This board is the agency that the made it happen. And all I can say in conclusion, is that I hope -- I mean, I was 75 years old last Sunday. And, frankly, I was able the look my grand children in the eye and feel that I was doing what I needed to do for them.

I just hope and pray that when you finish voting, each and every one of you can look your kids and your grand kids in the eye and be satisfied that you've done the right thing by them.
Thank you.

(Appplause.)

CHAIRPERSON LLOYD: Thank you very much, David.

We'll take the ten-minute break and come back at 11:25.

(Thereupon the brief recess was taken.)

CHAIRPERSON LLOYD: I'd like the restart, please.

And I'd like the ask Kelly to come back to the stand.

The light the now working there, Kelly. Could people kindly take their seats so we can continue. And, Kelly, could you speak into the microphone. Apparently, unless the witness is speaking, they can't hear at the back. So I appreciate it.

Questions from the Board?

I had one question. Kelly, when you're stating here well, you would like the recommendation from here not to go beyond 2003, implying that you don't know what you're going the do beyond 2003?


CHAIRPERSON LLOYD: 2005, okay.

MR. BROWN: What we said the we have -- we're comfortable, in the early years, that we can comply, but we'd like the go through those early years first and decide where the market is going and what the plans are. Once you get beyond 2005, that actually goes beyond the solid portion of our cycle plan, so I can't sit -- you
know, 2008 I hope to be with Sam. (Laughter.)

MR. BROWN: I don't know what we'll be selling, but --

CHAIRPERSON LLOYD: Staff was telling us that, basically, you know what you're going to do between 2006 and 2008, so you're saying you don't.

MR. BROWN: No. We have -- we have the rough cut of what the products are. We know with certainty what our products are going to be, the products I went through, the Neighbor launch comes out in the couple months. It will be June 1st. And the City launches in the spring of next year. A Ranger is already here. The Postal vehicle is already here. A Focus is here in test form and we don't know where that's going. We don't know how those volumes are going to come out.

So I can't tell you today what the volumes -- although, I see them in the press all the time, what the volumes of the fuel cell is going to be in 2006 for example.

CHAIRPERSON LLOYD: So if we helped you shape those numbers, would that be the help or the hindrance?

MR. BROWN: To be honest with you, I think the numbers you put in the rules -- I understand you're trying to send the message back to our companies that you want
us to do something. My only point is, the fact that you
write them down, that doesn't mean they're going the
happen. They're only going the happen if in those first
few years of the program, we're successful and we found
out the right combination of what's going to work, and if
we make more progress on batteries, and we'll know better
at the end of that time period where fuel cells are going
to be.

For me to try and tell you which one is going the
win out of that in 2006 --

CHAIRPERSON LLOYD: I hear you on that.

MR. BROWN: Even though I'm not under oath, I
don't think I'd try that here, but I guess I wouldn't read
that much into it, other than to say we're comfortable
that we know what we're doing in the early years. And
we're comfortable that we're going to have product success
in those early years, and we're going to be able to make
the numbers.

There's been the lot of debate among the Board
members as to the numbers the out years are too small. I
haven't heard anybody, other than me, say they're too big.
I don't know whether they're too big or too small or just
right and that's the point I was trying the make.

CHAIRPERSON LLOYD: Well, though, actually we
were helping you meet your Chairman's objectives, look at
it that way.

(Laughter.)

MR. BROWN: The way you can do that is to help us sell them, because, again, what you write down --

CHAIRPERSON LLOYD: We'd like to do that too.

MR. BROWN: Yeah. What you write down doesn't make it happen. You've got to get the things built.

You've got the make something the customers want. You've got to have them at the price they're willing to pay and put them out.

CHAIRPERSON LLOYD: I think that's something we have learned from the program. We need to have the much closer alliance with you as we try to market these vehicles. And I think that's what the Board did the last time.

A only think I'd hedge is if we have to come back in the couple of years and say, okay, we need the make some adjustments. In fact, you know, I think it's reasonable to assume that somewhere along the line, we probably will have to make some changes.

A thought that you know, we could sit here today and project that far out in the -- our cycle plans don't stay in concrete that long. We update those continuously.

So once you get beyond 2005, I don't know what our base product is going to be.
CHAIRPERSON LLOYD: Okay.

Questions from the Board?

Supervisor DeSaulnier.

BOARD MEMBER DeSAULNIER: Two questions. You've had the chance to read the letter from Massachusetts. Any comments, does it help you at all?

MR. BROWN: I think it's positive that they, at least, are willing to meet with us now. That's the big positive. I think even the staff would agree it's nowhere near as positive as what -- New York has talked specifics that they're actually willing to talk about how they can delay the implementation of the battery electric vehicle piece.

I suppose you could read that into the Massachusetts, and maybe it was an oversight that they didn't really write it in. But New York has actually said that. I guess I would have felt the lot better if Massachusetts -- the letter said we want to work with people and we want the make the program the success, but there's --

BOARD MEMBER DeSAULNIER: Staff is always looking for more positive comments than they deserve.

Just one other question, you mentioned Station Cars. What are the prospects for Ford doing Station Cars in the near term.
MR. BROWN: Oh, I think that's the perfect use of the City Car. And, again, that's another reason for our uncertainty. If that program takes off, that could be the big program in the out years.

BOARD MEMBER DeSAULNIER: Thanks.

CHAIRPERSON LLOYD: Yes, Mr. Calhoun.

BOARD MEMBER CALHOUN: Kelly, you mentioned the concern you have about the 2006 and the out years. And I have heard the staff talk about eliminating the biennial review which is something that the Board will decide. But if the biennial review is eliminated, then we've got to get some kind of the status report.

We do that now on the lot of the projects that we have. So we just can't eliminate finding out what the true status is in the out years.

CHAIRPERSON LLOYD: No. I think that's very true. It happens all the time and clearly it would be the response if we didn't. I'm sure we'd hear back from the staff that this isn't working.

Yes, Professor Friedman.

BOARD MEMBER HUGH FRIEDMAN: Just two comments. I share your concern that the vehicles that you make, that if you make them, they will come, they will be leasable, purchasable, and then, in fact, they are put in service and hopefully there's even greater demand than supply, and
that you will see that.

And hopefully at costs that don't require much
more subsidies or any subsidies other than what the State
itself is committing to, at least at this early stage.
And I've preached before and I will continue as long as
I'm on this board the work with anybody to enlist the
participation, the active participation of the
environmental community, who is very concerned about this
issue and wants volume and wants to see it on the road and
anyone else.

And so I hear you and others of you and I think
that we really have an obligation, as the board and staff,
and as the State government to do what we can to make sure
that you aren't out there alone, making them and trying
the sell them. And so that's important, I think, very
important.

Secondly, I think we need to do some monitoring.
Obviously, the staff indicated in their report I heard,
the plan to continually monitor and to continue the
dialogue with all of the stakeholders, but we don't want
the formal review, where it's all up for grabs again. And
so status monitoring and status report and, of course, the
staff has reserved in the plan the right the come as
needed back to the Board with suggested changes or
modifications.
Because I have no doubt that technological changes will occur that we can't even now envision. And that will necessitate further adjustment, potential adjustment. So I think that's built into it.

EXECUTIVE OFFICER KENNY: Yes.

CHAIRPERSON LLOYD: I think there is the commitment, as you know, from the Executive Office, from me and this Board and from Secretary Hickox, to work with the industry to work the northeast states. And that will go as soon as we clarify exactly what's going to happen.

Any other questions from the Board?

Thank you very much.

With that, I would like to -- I notice that Assemblyman Tony Cardenas has arrived. And I would like to afford him the opportunity to address.

Thank you very much, Assemblyman, for taking the time to come and address us.

ASSEMBLYMAN CARDENAS: Thank you very much. I appreciate this opportunity to express some concerns that I, myself, and some of my legislative colleagues have and I have the list of letters in support of the statements that I'm going to be making over these next few minutes.

I would like to thank the Board for allowing me this opportunity. It's really great to see that when we do choose the interact, the Legislature, various boards,
various different levels of government, that we give each
other the respect and attention that each of us deserves,
so I appreciate this opportunity to address you.

I'd like to begin by reading the piece of law
that was passed in SB 115. I'll read out Section 2, part
3 and also section 2 part 3(c)
     Section 2 part 3, "The California
     Environmental Protection Agency shall
     conduct its programs, policies and
     activities that substantially affect
     human health or the environment in the
     manner that ensures the fair treatment
     of people of all races, cultures and
     income levels including minority
     populations and low-income populations
     of the state."
     Part 3(c) also reads, "...to ensure
     greater public participation in the
     Agencies's development, adoption and
     implementation of environmental
     regulations and policies."
     It is the spirit of that law that I'd like to
address today. And we all know that sometimes laws and
reality don't converge as well as we intend. But my
purpose today is to remind the Board that we need to keep
in mind that spirit of the law and we need the make that
extra effort sometimes to make sure that we give that law
the opportunity to play out in real life.

We were all there last year when Governor Davis
signed the Environmental Justice Act of 1999. I'm very
cconcerned that the California Environmental Protection
Agency and the Air Resources Board have failed to live up
to this legislative standard.

As Chair Of the Budget Committee of the State
Assembly, I'm concerned that the taxpayer funds used to
administer the rule-making process are not being used in
the manner consistent with the spirit of inclusion and
openness that SB 115 demands.

There are many stakeholders whose concerns about
cleaner air, healthier communities and their children's
well-being have not been part of this process. Those
gpeople and their ideas need to be part of this process if
it's going to have validity that can be accepted across
the Board.

I do not want to get side tracked over the
philosophy of the rule-making process, such as it is --
whether it's the technology specific rule or performance
based rule. I'll leave that for later.

What I want you to hear today is that I care very
much about whether the children and seniors of my district
and the people of the State of California are getting the most effective policy for protecting their health and well-being.

We all know that the people in certain areas around Los Angeles, for example, are severely affected by asthma and lung disease, something we're all concerned about. We all know that the communities most adversely affected by poor air quality are the result of decades of environmentally racist land-use planning, placing manufacturing plants near schools, building schools on top of landfills and the expansion of freeways dissecting our communities.

Members of the Board, that which I've just described about that community, is the very community that my parents, as immigrants, moved into in 1955. I'm the youngest of 11 children who traversed those streets and had to deal with that environment all of my life. I now am very proud to say that I represent that community. There has been changes in the community. I think the most profound change the will and the activity of poor communities the get involved once they understand that they are welcome and that people outreach to them. Their involvement is profound and their efforts and their energies are appreciated when that opportunity the realized.
We're all highly sensitive to environmental agency rule-making processes like this one that do not actively seek the input of those who have historically been discriminated against.

I'm sure that no one on this board or that staff intended this, but that's what it is. By not consulting with my office or the offices of these members of the Legislature who have signed on to this statement, we have effectively excluded and we have ineffectively outreached to those various communities that we all intend to improve their quality of life and we all intend to do well by them.

I think it's important that we make this the better rule and the better process. I want to assist these communities and CARB in understanding the issues they must deal with on the daily basis. Most of the people in my district can't afford $400 to $500 the month the lease an electric vehicle. I'd suspect that most of the people who can afford the drive electric vehicles don't live in the various communities that we all are trying to improve.

That's why I'm asking you today to delay the vote on this item for at least the next four months and also support the proposal to combine the interests of the CARB, environmental justice groups and industry. I want
whichever the Board proposes to be acceptable by those who
should be participating in this process.

I appreciate the CARB's leadership in addressing
air quality issues and only ask that you reach out and
give an opportunity to those who cannot afford to be here
today to contribute to the process intended to improve the
lives of all Californians.

One thing that I would like to point out is that
at the local level, at the State level, and at the
national level all too often when we're trying to do
right by all communities, it is overlooked when it comes
to the outreach to all communities, and it is all too
often assumed, because the people who show up to the
meeting are of one voice, that that is the only voice.
But sometimes perhaps the reason why they're of one voice
is because there are many voices out there who are not
present, maybe they weren't touched in the way that they
need to be touched, maybe they were not reminded of their
responsibilities to be there in the way that they know how
to respond to it.

And that is important for us to remember that at
all levels of government in whatever capacity and
responsibilities we have.

As the Budget Chairman of the State Assembly, I
have the support of the Speaker and also of many of my
colleagues that we try our best to work together and outreach to these communities. And that is the reason we request that you delay this motion for just the few more months, so that we can give many more communities the opportunity to give their input, to give of themselves and to show that they want to be responsible and they are willing to be responsible and they will participate and they will contribute.

And as the result, we'll have the work product and we'll have decision making that is much more inclusive, and what's more important, that results in better policy and more effective policy that will move California to cleaner air and will make every man, woman and child make their quality of life better for the decisions you and we make together.

Thank you.

CHAIRPERSON LLOYD: Thank you very much, Assemblyman. Do we have any questions or comments the the Board?

Dr. Burke.

BOARD MEMBER BURKE: I just want to make it clear that the Assemblyman and I did not coordinate our testimony. I don't think we've ever met.

ASSEMBLYMAN CARDENAS: No, we haven't.

BOARD MEMBER BURKE: But you gave my speech. You
just did it better than me. I didn't ask for the
four-month extension, because I didn't know that was even
an issue. But mine is the continuing search, because I
look from this position and I look out at that audience
and I see the great part of California which is not
represented out there.

And I appreciate -- there was several members of
the Board, including Mr. McKinnon, who said that because
of the timing of this meeting, you know, it's difficult,
and location, it's difficult for people to attend because
they have jobs and things.

And so I would urge you to use your authority to
talk to the people of the administration, when you have an
issue as important as this, that maybe Sacramento isn't
even the place for the meeting. That if you have the --
if 41 percent of the population base is the 40-square mile
area, maybe it ought to be in that 40-square mile area.
And I know that that's an imposition on some of the Board
members and others.

But if the people are really to be served, access
has got to be provided. And I just agree with you on that
400 percent.

ASSEMBLYMAN CARDENAS: May I address some of
those comments, Mr. Chair.

CHAIRPERSON LLOYD: Yes.
ASSEMBLYMAN CARDENAS: I thank you, Dr. Burke.

And I'd like the make it very clear that you and I had never met before personally.

But at the same time, it sounds as though we have met in other ways in the work that we've done and the commitment that we have to the entire community of California and to all people.

So one thing that I would like to clarify is when I think this is what you meant, Dr. Burke, when we look out at this audience and we say this audience does not look like all of California, we don't mean that in the punitive way to those people who have attended. As the matter of fact, that's the compliment to those who have attended.

But what I personally ask is that we be mindful that expediency should not supercede good public policy and that perhaps it's incumbent, not only upon myself as the legislator or these individual board members, but it's incumbent upon all of us to try to assist in making sure that other people, who are not like us, attend and exercise their responsibility and make this work product the much better document.

CHAIRPERSON LLOYD: Thank you.

Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah. Assemblyman, it's
great to hear you speak today. And I had my comments
earlier kind of encapsulated, but I'd like to kind of
speak for myself. As the labor leader, I think that in
the meeting like this there is also oftentimes the class
difference, wage earners, hourly workers tend not to be
able to make the trip to Sacramento or tend not to be able
to attend the daytime meeting.

Something important for you to know about the
very early part of this process, and I don't know if you
knew this, but in Los Angeles in the very -- I don't know
what month, there was the ZEV review meeting, that went
until about 9:00 o'clock at night. And I was very happy
about that. There's more meetings scheduled in the
evening. And I think that's kind of the reflection of
this board kind of moving. So your comments, in terms of
that consciousness, are well received at least by this
member.

I'm not certain whether I want to put off this
decision, because I also want to make sure that you
understand that when I think about economic justice, some
of -- and I worked for the California Labor Federation
doing health and safety training all over the State in
some conditions that you and I would agree are truly
outrageous.

But one of the very interesting things when I
first became the board member, I was being lobbied by the
Automotive Alliance about the fuel content after we took
MTBE out. And I asked the Alliance how many plants were
left in California. And they said one.

And I said well, why is it that we're your
largest market and you don't provide jobs for the people
that work here in making those cars. And they said the
environmental regulations running those plants, okay.

So while we're talking about economic justice,
environmental justice, there's the whole set of variables
that include good jobs, big plants that can do things
environmentally more sound sometimes than small business.

And I have been mused at some of the, kind of, lobbying
tactics that have been used here by the automotive
industry, when in terms of economic justice in the
community where my family immigrated to this country and
your family immigrated to this country, their solution to
their plant's problems was to leave and take those jobs
with them, Van Nuys, Southgate, on down the list, San
Leandro.

So I really, really take to heart your message
here and don't get me wrong.

CHAIRPERSON LLOYD: Thank you very much.

Any other comments?

Well, thank you very much. And clearly, the
message I'm taking here is that we need to do the better job. I've been down personally on three evening workshops down there, outreach to the community. We are, thanks to your colleague who's about to come up, and the resolution he introduced last year, we are going down to Southgate, I think it's February 15th in that period, an evening meeting, 4:00 to 8:00. And I expect that we'll do more of this.

And, again, I can't reiterate how much we appreciate you coming. And we're trying. We need the do better. And we'll see if we can work with you and your community and your colleagues there to do better.

ASSEMBLYMAN CARDENAS: I appreciate it. Thank you very much.

CHAIRPERSON LLOYD: With your bill, Assemblyman Firebaugh, we are responding to that. We will be down in Southgate and hope that you will be there, on, I think, it's February 15th from 4 to 8. Although, I don't expect it to end at 8:00. And we're not setting that as our end period. We'll be there as long as people are are there.

ASSEMBLYMAN FIREBAUGH: Well, you know, it's interesting that you raise that resolution and that policy issue, because I think in the lot of ways it speaks to the matter before us today.

You know, I, like my colleague, Tony Cardenas,
and I know the number of members of the Legislature, are urging you to delay this vote for the more robust public discourse. You know, it's interesting that as I thought about the implications of coming here and requesting you to participate in this more robust dialogue, I was reminded of the rule with respect to MTBE.

And it took the resolution of the State Legislature to invite you, to convince you to do the couple of public hearings. Now, clearly we have engaged in the conversation that perhaps arrived at the same conclusion, but it really took some action on our part.

And what I'm suggesting to you today is that in many ways it's the replication of that experience. And I'm simply saying to you that there are many of us who represent communities and districts and populations that perhaps are going to be affected in an unequal way by this mandate.

I'm asking that we have, again, the broader discourse regarding the implications of this rule. And perhaps and we may be right back here with this same rule, that's the possibility. And I'm prepared to support that. Should the evidence bear that out, should the public discussion arrive at the same conclusion, I'm prepared to be supportive of that. But I would submit to you that there may be alternatives, there may be other ways the get
at this issue.

Look, for me, I represent the working class community. You know, I represent two of the poorest cities in the State of California, per capita income very far below the federal poverty level. These are folks who are not going to be able to afford zero emission vehicles anywhere in the near future. A reality is that there aren't many vehicles of the ones that have been produced in the neighborhoods that I represent and I don't expect them to be there anytime soon.

And so I'm suggesting that there may be another approach. I do not support letting the auto manufacturers off the hook. I think that they have to invest and invest robustly in making sure that we reduce air emissions. But perhaps this is not necessarily the way to go. Maybe this rule isn't the whole solution.

I'm not sure. I'm not an expert. I will tell you this, I drive through my district and there's horrible air quality there. I'll tell you this, there's schools in my district, you know, that regularly call the kids in because they shouldn't playing on the playgrounds. I'll tell you this, there's tremendous congestion in the communities that I represent and quality of life is impacted very dramatically as the result.

So I don't know what the answer is. I don't know
whether, you know, this is the right rule. I'm simply
saying that, you know, consistent with the dialogue we had
before, with the resolution that you agreed to participate
in before, with respect to MTBE, let's do that again.
Let's do that again. Let's make sure that there's an
opportunity for the robust debate.
And if we arrive at the same conclusion, then I'm
prepared to support that. But I think that there may be
an opportunity for greater flexibility, for greater
effectiveness in achieving what I think is our common
purpose of better quality of air.
Thanks.

CHAIRPERSON LLOYD: Thank you very much.
Yes, Dr. Burke.

BOARD MEMBER BURKE: I do know Assemblyman
Firebaugh. And the reason I know him is that in my role
as Chairman of the South Coast District, Assemblyman
Firebaugh is probably one of the most aggressive
legislators in protecting the quality of life for
everybody and every label, be it children, adults, no
matter what nationality they belong to, and he is forever
going to public coffers in our behalf.

And on behalf of the South Coast District, I
just, at every opportunity, would like to say thank you
very much Assemblyman and the State needs more people like
yourself. And we really appreciate your efforts as it concerns air quality and other items also.

ASSEMBLYMAN FIREBAUGH: Thank you very much.

CHAIRPERSON LLOYD: Thank you very much. I want to assure you also this board is very cognizant of trying the improve the air for all people here. As we know from the battles in LA over the years, it doesn't stop at county boundaries, so we will continue to do that and we look forward to seeing you down there and show you also the plans that we have for addressing those communities, particularly with the diesel issue, which has been identified by Dr. Burke as the number one problem down in LA to work on. We have programs under way to provide opportunities there to clean it up.

So thank you very much.

ASSEMBLYMAN FIREBAUGH: Thank you for your time.

CHAIRPERSON LLOYD: With that, we'll go back to -- thank you very much for coming -- to Jo Cooper from the Alliance, then Tom Austin, Jim Olson, Reg Modlin, Ben Knight.

MS. COOPER: Good morning. Thank you, Mr. Chairman and members and staff. I'm Josephine Cooper and I'm President and CEO of the Alliance of Automobile Manufacturers, which is comprised of 13 global companies, BMW Group, Daimler Chrysler, Fiat, Ford Motor Company,
General Motors, Isuzu, Mazda, Mitsubishi Motors, Nissan, Porsche, Toyota, Volkswagen, and Volvo. And I take my time, because I want to say them in alphabetical order very correctly.

Together, we represent more than 90 percent of vehicle sales in the United States. I didn't come here today to rehash some of the well-known facts about the California ZEV mandate.

In the past, we've laid out our many observations and objections to the program, based on the limitations of the current generation of electric cars, their high price, their extremely short range, their extraordinarily long refueling time, and the lack of infrastructure that exists because of the slow pace of battery technology development.

I'm not here to make the technical presentation. That is already in the record along with our reactions to the new staff proposal. What I do want to discuss with you today is what I believe are the goals that both the auto industry and the Air Resources Board shares.

It's unfortunate that during the course of the debate on electric cars all parties involved seem to have lost sight of the very key point that our goals are the same. Everyone wants cleaner air. A automakers want cleaner air. A ARB does. Environmentalists want cleaner...
air. California citizens, all of California citizens want cleaner air. And everyone agrees that advances in automotive technology are one of the ways the get there. We just have different views of the ways the get there and how we achieve our common goal.

I know how important clean air is. And I'm well aware of the unique situation in California. I spent half of my professional career at the United States Environmental Protection Agency and I was glad to see an old friend, Dave Freeman, who spoke earlier today.

I can assure you that I'm sensitive to the particular needs of the State of California. Our member companies are as committed to the goal of clean air as you are, because it's in their self interests to be so.

Automakers, and you're going to hear more about this later, the automakers are fiercely competitive with one another. Collectively, our 13 member companies invest $18 billion the year in research and development, $18 billion.

Each of these companies is constantly striving to outdo the other in the field of advanced technology and environmentally friendly motor vehicles. In fact, all of the money that we've invested collectively as an industry over the last dozen years or more has yielded unprecedented advancements, I know you'd agree.
Advancements in emission controls, cleaner engines, cleaner fuels, advancements in integrated systems, fuel cell technology, hybrid vehicles, alternative vehicles, and others.

As you can see we've made progress. Because of these developments, we can proudly say that all cars and light trucks are now at least 96 percent cleaner than they were in the nineteen sixties. Starting in 2004 cars and light trucks will be 99 percent cleaner. Indeed, new technology on the horizon promises to move us even further down the road to cleaner vehicles in the years to come.

I cannot overstate with you the ferocity with which automobile manufacturers compete when it comes to the area of advanced technology. Engineers from Detroit to California to Germany to Japan armed with computers and clipboards, test tubes are constantly seeking new ways to reduce emissions even further.

The fact is that our companies have explored the path of battery electric vehicles with the same competitive zeal that they use when they approach any potential new technological breakthrough. They've worked diligently and creatively to try the find the way to make electric cars competitive with conventional vehicles. We all hoped advancements in battery technology would decrease costs and refueling time while increasing
vehicle range necessary for something other than the niche vehicle market. However, much to everyone's disappointment, these advances in battery technology have just not come to fruition as we would have wished.

So the electric battery path is at the crossroads. One path leads to the market where competitive companies can compete for the niche battery electric vehicle market or pursue other technologies. A other path leads to an unsustainable mandated market for electric vehicles and ultimately the dead end.

When this original mandate was passed in 1990 no one could have imagined that more than the decade later, we'd still be waiting for the breakthroughs in battery technology we all expected. Yet, here we are 11 years later and that technology seems farther way than ever.

It may be hard for some to surrender what we all consider the dream of electric cars as the solution to all of our problems, but we must not let ourselves be captives of disappointing technology when we can embrace the promising technologies of the future. In 1989 when General Motors first unveiled the GM Impact, electric cars were an idea whose time the seemed to come.

In 2001, however, electric cars with broad consumer appeal are an idea whose time has come and gone, much like eight-track tapes and Betamax and New Coke.
But that doesn't mean that this is the time for recriminations and blame. It simply means that there is the time and the place to explore the different path. Over the last few weeks the Alliance and its member companies have worked with the ARB staff on alternatives. One of these is the fair market test. Another is the staff's proposal, which as we heard this morning contains the menu of technology options and flexibility.

Some of these options must still be invented and developed for commercial use. This new technology must then be immediately passed on to other states that have adopted or may adopt California's requirements. In order the determine which technology best fits California's needs, the Alliance member companies have proposed entering into individual contractual agreements with California that comprehend the staff's proposal.

As with any new technology, it is critical to test the technologies that are set out in the staff's proposal in the limited market before casting the wider net. If additional states prematurely adopt California's program, the automakers will be forced to divert resources away from California changing the potential for success and diverting both financial and engineering resources from California.

As you know, and as you heard earlier, the
automakers and senior ARB staff met with some states considering California's regulations just last week. Although the automakers and the ARB have discussed options, we've not been able to reach the resolution before the Board hearing today. Time simply ran out. We, therefore, request that the Board delay its decision on the ZEV mandate for 60 days while the ARB staff and industry continue working to resolve these issues. We're so close. We have an opportunity, all of us, today. We can say, yes, to the promising technologies of the future and not be held back by yesterday's promise. Let's make the right decision. Let's delay final action for 60 days. Then let's prove the technologies, let's prove the market and then choose the right path for California.

Thank you very much, Mr. Chairman.
Thank you very much members.
CHAIRPERSON LLOYD: Yes. Thank you.
Matt.
BOARD MEMBER MCKINNON: I guess, I want you to understand, for me, after going through almost well over the year of this process and going to El Monte in this last phase and hearing one, maybe two manufacturers even speak, the time running out argument falls short on me. I was there, and I was astonished that there weren't
proposals at the El Monte meeting in the process that are most current. I was astonished. I think Kelly -- I think Ford and Chrysler spoke in terms of kind of concrete forward proposals. So you know, I have difficulty with that.

A other thing that you should know is that I think we have cut this to the bone. And what 60 days might do for me is convince me that we need to add to the numbers, not shrink the numbers.

(Applause.)

BOARD MEMBER McKINNON: I think you should know that. I mean, you know, the process was here and folks didn't come to the table in El Monte. You know, that's why I went to the meeting, I wanted to see what was happening. I wanted to watch it.

So just one member's thoughts.

MS. COOPER: If I could just make the brief comment. I think the lot of the work that the automakers have done, I think they have shared an awful lot of their product plans and their vision for the future with the ARB staff. And, as you can imagine, the lot of that information is very highly competitive, and therefore the lot of it does remain confidential to the public, just simply because of the competitive nature of the business.

So from the perspective of our members, I think
individually they have been able to share the lot of that
information with the ARB staff and Board. But at the same
time, I think you also can recognize that bringing
together the various companies that come under the
Alliance umbrella, each of them has the different vision
for the future, each of them does have the different
product plan.

And so the ability to come together all looking
at the future is the very delicate balance of sharing
information, sharing technology and yet maintaining your
competitive ideas' vision for the future. So I think we
need the keep that in mind.

The other is that as you look at the process that
this mandate has gone through, I think we've all learned
the lot. There have been advances, some of it directly
related to the electric vehicle. I mean the lot of other
things, though, have come out of this work. And I don't
think we should lose sight of that as we say let's take
stock today. And I think looking at the staff proposal
that we received in December, companies are still trying
to see and evaluate, what, and you'll hear that later,
what it means to them. And some are in the much, much
more positive position, some have taken different
technology paths.

So I would really say to all of you that that's
the very important element, and you may not hear that over
the course of the day, but it certainly is an important
element in these deliberations, because you all, as I
think David Freeman said, my career at EPA, said
California is the trend setter, California is the leader,
but our companies also have the be leaders.
So I think we share the lot of common and mutual
goals. And I think we need the build on that and not
always focus on the areas where we may not agree and where
there are differences.
Thank you, Mr. Chairman.
CHAIRPERSON LLOYD: Well, I would also like the
compliment you, Jo, you and Greg, and Steve Doulgas,
again, for the efforts that you've made the try the get
all the parties together. I realize now you have the
tough job. We all have the tough job there, but I know
that the spirit in which you conducted this, I appreciate
very much.
I would say, I'd go back to my opening comments
when I talked about the 60 days. I think you should look
back at the period from September 8th for about those 60
days there I think there was an opportunity, that now
you're saying we need.
Fortunately, our staff was working feverishly
with little information, even though it was confidential
at that time, and whether it was state of shock or
whatever, but I think, you know, I'm not that sympathetic
to that particular issue there.

MS. COOPER: Well, I think in our judgment, the
60 days would really allow us to continue the discussions
with New York and the northeast states, because it is the
very valid point, I think you'd agree, that if the
regulation does go forward, then the northeast states can
adopt it in toto. And notwithstanding the letter today
and discussions, I think it puts our companies in the very
substantial dilemma, and that's really what we're
concerned about.

And I think we've said that. I mean, we've said
that over time and we have made efforts to move the ball
forward.

CHAIRPERSON LLOYD: I thought there was some
flexibility in the rule-making process in the finalization
to actually make sure that's accommodated at least
according to Mr. Kenny there.

EXECUTIVE OFFICER KENNY: I'm sorry?

CHAIRPERSON LLOYD: The issue was, Mr. Kenny,
that the travel issue would also, if we delay 60 days,
allow more time to come to some conclusion to the states.
And I thought that within the current, if we go ahead
taking some action today or tomorrow, that there is that
opportunity, which I know you and the Secretary made the
commitment, to work on that issue during and before the
rule is finalized.

EXECUTIVE OFFICER KENNY: Actually, we are
willing to work on that issue and we will continue to do
so. And, in fact, that offer was originally made last
September, right after the Board's meeting in early
September.

And we have been -- actually, I have actually had
the number of conversations with the northeast states and
those have resulted in, you know, I think progress between
all of the parties, you know, whether it's us in the
northeast or the auto companies in the northeast. And
we're willing the continue the do that.

CHAIRPERSON LLOYD: Yes.

MS. COOPER: Well, I'd just like it to remain on
the record, that is the very real and valid concern from
the automaker's perspective.


BOARD MEMBER D'ADAMO: Just really the comment
because I know we have the lot of witnesses that still
haven't had an opportunity to come up here. And on the
issue of the fair market test, I have to say that I am
just absolutely amazed that the Alliance is coming in and
some other automakers on this point, and you would expect
us to take you seriously when the very -- some of the very
companies that you're representing would go out there and
try and market these vehicles as -- compared it to an
eight-track tape or the Betamax or the dinosaur.

We're talking about the vision. And the fair
market test, I think, is just destined for failure because
of the marketing tactics that would be used. I would just
like the ask any of the other witnesses that will be
coming up here to talk about the staff proposal and to
talk about ways that we can improve the staff proposal
rather than completely, in my mind, abolishing this
regulation with the fair market test.

CHAIRPERSON LLOYD: Yes, Mr. Calhoun.

BOARD MEMBER CALHOUN: You mentioned something
about the --

CHAIRPERSON LLOYD: One request I've had from the
audience apparently that they cannot hear us very well so
we need to speak right into the mike as close as we can.

BOARD MEMBER CALHOUN: You mentioned the fact
that individual manufacturers have had discussions with
the staff regarding the use of MOAs as the means of
complying with the regulation. And were you thinking of
that in terms of something that would happen during the 60
days, or I guess I'm trying the get the better feel for
where you're headed with that.
MS. COOPER: Yes, one of the alternatives that we talk with the staff about last week was to have the individual manufacturers, and this was really as much as anything, to try to address the issue of other states, wholesale adopting the California, the entire staff proposal as the California regulation -- if it went forward as the regulation.

And from our perspective, in order to build on the California program, to allow the individual members to enter into the Memorandum Of Agreement comprehending the staff proposal, so that they could individually build on their product plan, their vision and the strength of their company and where they were headed, and that's exactly what we had in mind as we talked through that.

BOARD MEMBER CALHOUN: Would the the executive officer comment on that?

EXECUTIVE OFFICER KENNY: I'm happy to.

Essentially, federal law allows other states to copy this program. Federal law provides California as the only state in the country with the ability to adopt the Mobile Source Program.

A manufacturers are essentially asking us to work around federal law and to duplicate something that we did five years ago that resulted in the exact position we're in today, which is the problem. We had MOUs with the
manufacturers that we entered into in 1996. They did not work. They were the failure.

BOARD MEMBER CALHOUN: Did they live up to the MOAs.

EXECUTIVE OFFICER KENNY: Pardon me?

BOARD MEMBER CALHOUN: Did they comply with the MOAs?

MS. COOPERS: I would have to say they did.

BOARD MEMBER CALHOUN: I'm asking --

EXECUTIVE OFFICER KENNY: My answer would be no.

And my answer would be no because the MOAs also anticipated that we would have essentially the response to market demand. We do not have that. We do not have market -- we do not have vehicles being offered into the market today, and so that is the problem. The MOAs have been utilized once and they did not work.

And so I fail to understand why we would want to pursue a path, which has been proven, at least once, to be the failure.

BOARD MEMBER CALHOUN: Well, let me pursue this the little bit. Am I to understand or this board the understand that we entered into an agreement with the auto manufacturers and they did not comply with the MOA?

EXECUTIVE OFFICER KENNY: A MOAs essentially had very specific obligations and then they had more general
obligations. The specific obligations with regard to the actual number or specific number of vehicles that had to be provided for in specific time frames have been complied with.

There were additional aspects to the MOAs that required the automakers to meet market demand with good faith efforts and to have production capability to do so. I do not see market vehicles being offered today. And so it would be my opinion that they have not complied with that aspect of the MOA, which leads me to the conclusion that the MOAs were the failure.

BOARD MEMBER CALHOUN: Why didn't we pursue them, if they're in noncompliance?

EXECUTIVE OFFICER KENNY: We have pursued the noncompliance with the manufacturers. And we pursued the noncompliance with the manufacturers even as recently as in the last year, when certain vehicles were recalled. We talked with the manufacturers about the fact that when they recalled those vehicles, they should provide substitute vehicles which were also EVs and we were basically rebuffed on that issue.

And so we were put into the situation in which we had an MOA. We could go into court presumably and essentially get into the long legal battle, but obviously we didn't see the benefit in that. And so what we've
chosen to do is to essentially not respond positively to
the repeat of an MOA experience which we don't think was
positive.

CHAIRPERSON LLOYD: Also, you know, I've got the
lot of witnesses signed up now in our mid sixties. And I
thought we spent the day and the half in September, which,
in fact, looked at that issue about whether there's the
mandate and an MOU. And in light of speeding it up, I
would like the suggest that we move on the little bit.

Professor Friedman do you have the question?

Mr. McKinnon and then Supervisor DeSaulnier.

BOARD MEMBER McKINNON: Yeah, however, hard-nosed
I may appear, on the issue of Massachusetts not dealing
with this, you know, I've said before I want to stay
informed in that and I want to help. You should know
though I value and I think the public should know we value
our relationships with other states.

If you take -- we just had two very good men that
are State Assemblymen talk about environmental justice.
And if you take the diesel issue in their districts, our
relationship with states is very important and I intend to
spend some time with those Assemblymen talking about that.

So, you know, an MOU, for me, is the nonstarter
because we need those relationships with states. If one
State is really dragging it out and causing the problem,
you know, I'm sure Kelly Brown is going the call me and
you should feel free the call me or the Chair or Mike or
anybody, we want to help.

MS. COOPER: I will. Thank you very much.

BOARD MEMBER DeSAULNIER: A simple question, are
you saying that if this were the California-only program,
that you would support the staff recommendation?

MS. COOPER: I think our companies have looked at
the staff proposal and comprehend that with the
flexibility in the program and the ability to sit down
with the ARB staff and their company technical people, I
think there are ways to move the process forward.

BOARD MEMBER DeSAULNIER: Was that the yes?

MS. COOPER: You'll have to ask the individual
companies specifically.

BOARD MEMBER DeSAULNIER: Okay.

BOARD MEMBER BURKE: Mr. Chairman?

CHAIRPERSON LLOYD: Yes, Dr. Burke.

BOARD MEMBER BURKE: One quick question. Mr.

McKinnon made the really good point when he went down to
the Southgate meeting, why wasn't the MOU issue discussed
down there by the majority of your members if that's what
they wanted to pursue?

MS. COOPER: I believe the view at that time was
that we were going to work through the issues with the
other states and come to the workable arrangement, but we have not been able to do that to date, Dr. Burke. I think it would have been difficult to do that kind of arrangement without seeing the staff proposal, which came out in December, so that we saw the full complexion and comprehensive nature of the staff proposal, that's correct.

CHAIRPERSON LLOYD: Thank you very much.

Is that it?

Thank you, Jo.

MS. COOPER: Thank you.

CHAIRPERSON LLOYD: Tom Austin, Jim Olson, Reg Modlin. I said earlier I'm going to try to limit the testimony and I've tried the be liberal but now we've gone way beyond three minutes for anybody here. So I would ask you, Tom, if you could try to be as precise as you can. I know some of your pictures are worth the thousand words.

(Thereupon an overhead presentation was presented as follows.)

MR. AUSTIN: Thank you, Mr. Chairman. I'll abbreviate my testimony. I'm Tom Austin, senior partner at Sierra Research. What I'll be presenting to you today are the results of the study that was just finished earlier this week conducted by Sierra Research and National Economic Research Associates.
As in the analysis done by the ARB staff, we projected emissions using ARB's latest emission factors model. However, unlike the staff analysis, we made adjustments necessary to account for the range limitation of electric vehicles and to account for the reduced rate of vehicle scrapage that we believe will be caused by the slight increase in new vehicle prices necessary to recover the cost of the ZEV mandate.

--oOo--

MR. AUSTIN: Figure one shows the 1990 baseline inventory for the South Coast Air Basin, all sources, hydrocarbon and NOx emissions, before the ZEV mandate just -- the same year the ZEV mandate was adopted, but it's obviously not yet had any effect. And 2010 are the current projections of emissions the South Coast with and without the mandate.

And in this projection we're using the staff's assumptions regarding the air quality benefits of the mandate. A reason you can't see any difference in the height of the two bars is that when you look at it in this perspective, the ZEV Mandate is having the theoretical benefit of approximately one tenth of one percent of total HC and NOx emissions.

--oOo--

A next figure shows the somewhat different
perspective, looking at the benefits of the mandate compared to other control measures that have been adopted by the Air Resources Board in the past. We're showing the tons per day of hydrocarbon and/or hydrocarbon plus NOx emissions in the South Coast Air Basin for the reformulated gasoline regulations in 2010, spark ignited marine engines and the portable gas can regulation showing that they all have substantially greater benefits than the 1.3 ton per day benefit in emissions associated with the ZEV mandate.

MR. AUSTIN: Figure 3, the next figure, shows the cost effectiveness ratio estimated for the same control measures as shown in the previous figure. And here the situation is completely reversed. A electric vehicle portion of the ZEV mandate is projected to cost over $1.7 million per ton of hydrocarbon and NOx emissions reduced using the ARB staff's assumption regarding the emissions benefits. That's more than 100 times higher than the cost of other, almost other control measures adopted by ARB. And you can see, I've had the adjust the scale here to be able to actually show any height of the bars for the other measures. On the same scale, they would not show up. They'd be about the height of the line running along the X axis.
A staff's estimates of -- or under these circumstances, it's apparent that the rationale for pursuing the mandate is that it could potentially provide greater in the longer term. However, the staff's emission reduction estimates are based on two assumptions that we believe are clearly wrong.

First, the staff assumes that the increased cost associated with the ZEV mandate will have absolutely no effect on the sale of new vehicles in California. Second, the staff assumes that every EV will fully replace the conventional gasoline vehicle.

Regarding the assumption about new vehicle sales not being adversely affected by higher costs. The staff is assuming that basic economic principles do not apply in the cases of the ZEV mandate, that manufacturers are somehow going to absorb the cost of the ZEV mandate or to spread the costs nationwide or even worldwide production. It's too complex the subject to address in detail in the short oral presentation. However, the report that we prepared and recently submitted just yesterday to the Board on this issue demonstrates that it will be economically irrational for manufacturers to take an approach where they don't try the recover costs in California.

A conclusions that we've reached in this regard
are consistent with what the Board heard during the testimony of Dr. Howard Grunspect, the noted economist from Resources For The Future, who said essentially the same thing.

A increase in vehicle prices needed to recover the costs of the ZEV mandate, even when you account for the subsidies that we think will be made available under current and proposed legislation, are still going to amount to the slight increase in the cost of conventional gasoline vehicles, maybe only $300 or $400 per vehicle. And superficially, this may not appear to be enough to have any meaningful effect on new vehicle sales. However, the potential benefits of the ZEV mandate are so small that only the small effect on vehicle sales is sufficient to more than offset the theoretical benefits of the mandate.

--o0o--

MR. AUSTIN: Now the last figure shows our projection compared to the staff projection of what happens to emissions in the South Coast Air Basin during 2010 under what we think is the most likely response to the staff proposal.

As shown in the figure, there is the slight loss in new car sales, which results in older vehicles staying on the road longer, combined with the fact that EVs can't
fully replace gasoline vehicles, results in emissions due
the mandate going up by about 4.3 tons per day in 2010
instead of going down by 1.3 tons per day as estimated
using the staff's assumptions.

Given the discrepancy between our estimates and
the staff's estimate, you have to ask yourself, which is
the more reasonable assumption? Will each new EV fully
replace the gasoline fueled vehicle or will motorists
still have to rely on older gasoline fuel vehicles to meet
some of their transportation needs? And more importantly,
is it more reasonable to use the staff's assumption that
the cost of the ZEV mandate will not be passed through and
will have no effect on new car sales or is it more
reasonable to assume that manufacturers will act in their
economic interests and raise prices slightly, which will
slightly reduce new vehicle sales.

When you look at the effect the these two
assumptions, it becomes clear that the ZEV mandate can be
expected to have an adverse effect on emissions unless the
staff's assumptions are absolutely correct and our
assumptions are way off. Gasoline fueled vehicles are
going so close to zero emissions that anything that even
slightly slows the replacement of older vehicles with new
lower emission gasoline vehicles has an adverse effect on
air quality.
The decision facing the Board is the difficult one because electric vehicles symbolize environmentally benign transportation. Perceptions about the polluting nature of gasoline fueled vehicles die hard. However, the realistic forecast of the effect of the mandatory EV production indicates that continuation of the ZEV mandate would place symbolism ahead of the best interests of air quality.

I'd be happy to answer any questions about the work that we've done in this regard.

CHAIRPERSON LLOYD: Thank you very much.

Comments from the Board?

Yes, Professor Friedman.

BOARD MEMBER HUGH FRIEDMAN: I believe Sierra made the presentation in September as well.

MR. AUSTIN: That's correct. It wasn't on this same study I'm talking about. It was the similar study.

BOARD MEMBER HUGH FRIEDMAN: Similar study, it had to do with the replacement of older vehicles or the nonreplacement among other things.

I want to be clear, your written testimony indicated that this research report was funded and engaged by the auto industry?

MR. AUSTIN: The Alliance of Automobile Manufacturers and the Association of International
BOARD MEMBER HUGH FRIEDMAN: Thank you.

CHAIRPERSON LLOYD: Thank you. Another thing,

Tom, when you're addressing the air quality issues, as you
know, from the lawsuit which was filed yesterday on the
MTBE issue, the lot of issues surrounding, you know, the
gasoline vehicles. While they're getting cleaner, there
are still issues with respect to the fuel there that,
again, we're trying to address some of those and we're
trying to address the small part.

Plus the fact, I think, we're trying to look in
the longer term about the concern about the gasoline
shortage we may be getting, some of the projections I saw
in the LA times, maybe $3 the gallon.

So, you know, that's another dimension that we're
trying to address.

MR. AUSTIN: Yeah, I understand that. A concern
I've had in the way -- the difficulty we've had in getting
the staff to consider the possibility that prices might
rise because of the cost of electric vehicles is for the
economists that have been working on this project. It's
almost like the staff is refusing to accept the concept
that there's gravity.

When costs go up, we know the prices are going to
go up even slightly. And I hope we haven't created the
impression that we think that this mandate the going to have some kind of devastating effect on new vehicle sales.

We don't. It takes less than the one percent drop in new vehicle sales to completely offset the theoretical benefits of electric vehicles.

CHAIRPERSON LLOYD: Professor Friedman.

BOARD MEMBER HUGH FRIEDMAN: I was just going to ask if the staff wanted to comment on that?

DEPUTY EXECUTIVE OFFICER CACKETTE: Well, I think as you know, we looked at the study that was presented at the Board in September. You know, we think the economic principle that prices go up, there's some, usually for most commodities there's some, perhaps other than food, some downward potential in sales.

A part that I think causes us not to go back and try to readjust numbers to reflect this kind of scenario was one that we view this as a long-term proposal, something that, in the future, we will have all clean vehicles or almost all clean vehicles. And maybe there is a blip now and for some time, I don't know about up to 2020, we just saw the graph for the first time now today.

But, you know, there certainly may be some blips. But our, you know, experience has been that it's hard to try to nail down these kind of assumptions with the specificity that Mr. Austin has presented, because, you
know, a lot of stuff changes. I mean, we had estimates of the cost of low-emission vehicles that were $1,000. It turned out they were $100. And if I based it on $1,000, I would have been -- we would have been, which was testimony presented to the Board, we would be making exactly these kind of claims that my God at $1,000 for every vehicle going up nobody is going to buy these.

And, instead, you know, they turned out to be $100 and we have, you know, record all time sales of vehicles up to at least the last few months. So it's very difficult to look at well, what's it going to be in 2003, what's it going to be in 2004, and what's a small percentage increase or decrease in sales or do we get or actually not get the emission reductions till a couple years later.

I'm not sure how much merit you can put into the accuracy of those kind of assessments. And what gave us comfort, I think, in the long-term is that, you know, we believe that this mandate has brought us way, way cleaner vehicles than we ever blended into our calculations in 1990, and that it will do the same thing as we get out towards 2010 here if the Board adopts the proposal we've seen today.

So it's a little bit more of a, not that we're trying to put our heads in the sand or that we're getting
ready to float away because we don't have our gravity boots on --

(Laughter.)

DEPUTY EXECUTIVE OFFICER CACKETTE: -- it's really just a case of trying a look at this in a long term. And we believe strongly that this is going to bear a lot of fruit for everybody, not just from an ozone standpoint of HC and CO, but in terms of the whole new generation of technologies that can benefit us from the energy standpoints, pollution standpoints, multimedia standpoints, a whole bunch of things.

MR. AUSTIN: We certainly don't disagree that the overall program is having large benefits. It's just that when you dissect it and look at where the benefits are coming from, they're all coming from cleaner gasoline vehicles and when you do any consideration of what's going to happen with an electric vehicle portion of it, it's a drag on the rest of the program.

We believe that there's clearly a disbenefit that has to be accounted for unless you're going to say a laws of economics are suspended when it comes to the ZEV mandate.

CHAIRPERSON LLOYD: Thank you very much. We have Jim Olson, Reg Modlin, Ben Knight. I'll just announce for the Board Members that the box lunches are here. I
propose that we just sequentially go or whatever, get our lunch and keep going until the court reporter tells us. We can hear the testimony in the back, so that will work pretty well.

MR. OLSON: Thank you for this opportunity to testify about the Toyota's concerns and commitments. Toyota supports measures to make California's air even cleaner. And we have complied with many regulations that take us in that direction.

To name just a few relatively recent actions, the introduction of LEV compliant vehicles, the introduction of LEV 2 compliant vehicles and the pending introduction of near zero evaporative controls. We're committed to doing more. The fact that California's air is cleaner than it has been at any time over the past four years, despite more vehicles traveling more miles on more roads, it's testimony to the effectiveness of the steps the auto industry and the ARB have taken together.

We support the modifications the ARB staff has made the regulation as a first step toward a more fruitful program better focused on air quality improvements and advanced technologies instead of one focused solely on zero emission vehicles.

The proposed modifications coupled with the creation of an independent technology assessment panel
could help the ARB staff and other interested parties evaluate propulsion technologies and can help set a new direction and lend great effectiveness to the ZEV Program. Toyota has demonstrated our commitment to clean air with a recent introduction of the PREIS, a hybrid that delivers more than 80 percent better fuel economy and 90 percent fewer emissions than a comparable internal combustion vehicle. Like other hybrids, Preis relies partially on electric power, but it remains affordable because it also incorporates very clean gasoline power. Given the current state of the technology, it is the best of both worlds and we believe a best available bridge to even cleaner vehicles incorporating fuel cells and other advanced technologies.

In contrast, the utility of battery electric vehicles is severely hampered by the limitations of the storage medium that drives them. Our engineers tell me that a pound of gasoline stores 170 times the energy of a pound of advanced nickel metal hydride battery. And they are expensive. A typical full functional electric vehicle, such as the Toyota RAV4 EV currently costs more than $100,000 to build.

For that investment, you get a vehicle that travel 100 miles at most before needing at least six hours to recharge. Then you must find a place to plug it in.
There are only 400 public charging stations in the entire State, compared with more than 12,000 gas stations. The staff of the Air Resources Board has labored valiantly to address the shortcomings by cutting back the requirement for pure zero emission vehicles to less than 5,000 in 2003 and filling out the rest of the requirement with PZEVs and advanced technology PZEVs.

Toyota commends this effort to balance demands from various stakeholders. We also applaud the significant shift in focus to other technologies that we believe have more current and eventual marketplace promise.

But we still have some concerns with the staff proposal. Let me explain why we still cannot give our complete support to it. First, in order to achieve the full credits offered in this proposal, as has been pointed out, manufacturers must sell battery electric vehicles, not just offer them for sale. Toyota doubts a marketability of battery electric vehicles, particularly if we price them anywhere near what it costs us to make each one.

Second, California is not an island. If you approve this regulation, it will be adopted by New York, Massachusetts and many other states, vastly increasing our costs and siphoning resources away from the development of
more promising cleaner air technologies here in California.

And third, the proposed regulation contains no provision for expert public review of the potential for advanced technologies.

Toyota understands that California's elected and appointed officials must answer to many constituencies. That's why we have worked with the ARB staff to improve this regulation with changes, such as allowing credit for the resale or release in California of full function electric vehicles coming off service in other states. Other suggested changes are included in our written comments.

Despite the remaining problems I have called out and this is the commitment part of my testimony, if you approve this regulation Toyota will do its best to comply.

In closing, let me add these thoughts. The public entrusts you, the Board, with the responsibility to preserve and improve the air we breath, the stuff of life. The same public entrusts Toyota and the other automakers to provide safe, reliable and affordable passage to school, to work, to the market and home again, to soccer games, and dances, weddings funerals and vacations. In its way that too is the stuff of life.

And this is Toyota's dilemma. We believe in
environmental stewardship and customer satisfaction.

Excuse me, I've got a cold and I'm dry, so I'll get out. That's why I hate to be caught in a three-way conflict among the Government mandate, the limitations of technology and the demands of the marketplace.

Successful regulation is the art of combining the desirable and the doable, you know that. We'd like to continue working with you in the future to find a better way to create market driven public policies that leave consumers where the environment needs them to go.

Thank you for listening.

CHAIRPERSON LLOYD: Thank you very much.

Questions by the Board?

Thank you very much.

Reg Modlin, Ben Knight, Al Weverstad.

MR. MODLIN: Good afternoon, Mr. Chairman and members of the Board.

My name is Reg Modlin. I'm Director of Environmental and Energy Planning for Daimler Chrysler Corporation. I do appreciate the opportunity to comment on the Air Resources Board proposal to modify this zero emissions mandate of California's portion of California's Low Emission Vehicle program.

For the record, I acknowledge I signed up as a witness in opposition. Please understand that the
position is merely traditional.

(Laughter.)

MR. MODLIN: I prefer to be seen as in support of change.

CHAIRPERSON LLOYD: We thought there was hope when the name changed to DC, but I guess not.

MR. MODLIN: To begin, I wish to emphasize that Daimler Chrysler Corporation, through its employees, suppliers, dealers, customers, retirees living in California is deeply interested in the health of all of our collective extended family. We are supportive of California's pursuit of clean air objectives, advancements in technology and even regulations that when properly conceived and timed can help in assuring smooth transition of technology into the market. And we strongly support the claim that movement to cooperative industry government relationships is the way of the future in achieving mutually beneficial goals.

We intend to continue to use our experience from our battery electric minivans, our substantial role in fuel cell development, a wider range of vehicles including neighborhood electric vehicles and PZEVs to pursue these goals.

We accepted your challenge in September to create one more old American try to address issues with the
mandate. We will continue in that effort, but today the staff has presented a proposal that does not address the cost of electric vehicles and batteries. It fails to address the issue of a sustainable electric vehicle market.

We are disappointed the staff proposal simply modifies the existing ZEV mandate, without consideration for an initiative that's suggested by the manufacturers to work cooperatively to evaluate how best to develop a market for electric vehicles and other advanced technologies.

The staff's proposal, though well intended, continues to attempt to force expensive technologies into an unprepared market. Recent events illustrate how unintended consequences can flow from well intended regulatory programs. Arizona adopted a program that offered substantial refunds to those who bought vehicles designed or converted to run on alternative fuels. The Legislature estimated the program would cost the State approximately $10 million. In the end, the cost ballooned to over six hundred million. And in December Arizona was forced to deal with a budget crisis resulting from this well-intended initiative.

California, too, is currently suffering under an unintended consequence of a well intended effort to
deregulate electric utilities. The recent power shortage
that stems from deregulation has left Californians with
the unpleasant choice of higher electric rates or bankrupt
utilities.

Would the ZEV mandate prove to be another
experiment that was prematurely launched? The staff
report certainly shows the possibility is there.
Otherwise, why should such dramatic changes be suggested.
Remember, that the staff report told us that electric
vehicle costs are high and emission reductions are very
small.

The battery panel clearly said the battery
technology is not evolving quickly enough and that
batteries will remain expensive, if for no other reason
than the material cost is simply very expensive.

We agree with this assessment that has noted the
possible adverse consequences that may flow from this
experiment. The electric vehicle program that the staff
has proposed is so complex and expensive that it too runs
the risk of likely having consequences that no one can
predict.

Consideration of time is one issue.
Manufacturers at least cannot use some of the changes
suggested by staff in cases where manufacturers have
established their plans to meet -- to attempt to comply
with California's existing mandate. The 2003 model year is under one year away. For a manufacturer to have a product available for the 2003 model year, production plans have to be completed by mid-2001. To support production, the engineers had to complete their work by mid last year.

Therefore, my comment is that an option suggested by staff cannot be used by a manufacturer within the early years of a modified program, unless the manufacturer already had the technology in place for other reasons. Let's save the inherent competitiveness of this business. Or how about the example observed today. Electric vehicles sold off of a dealer's lot under the staff's proposal can receive four credits in some cases. But if no customer can be found, a manufacturer must be forced to place three additional unsalable vehicles onto that dealer's lot in an effort to remain compliant. Talk about an unintended consequence.

There are alternatives to the risk and expense of regulatory experiments. One alternative is for government and the auto industry to work cooperatively as we have demonstrated under the California fuel cell partnership. Manufacturers have proposed to cooperate with the State to seek a solution under such a framework. A cooperative effort would provide for the Board and manufacturers to
join in determining whether there is a sustainable market for electric vehicles and other technologies.

The manufacturers suggested two proposals in the last weeks. Neither was totally acceptable to the audiences, including the Board, Cal EPA and citizen groups. We remain hopeful that creation of a cooperative approach is within reach that addresses interests of all stakeholders including interests outside California.

We have held discussions with stakeholders over the alternatives to the regulatory approach. I believe that we are not that far away from an agreement on a solution. I and others in the auto industry propose that we hold action on the Board staff proposal for 60 days or we give one more American try to produce a cooperative solution on this issue.

Thank you for your attention.

CHAIRPERSON LLOYD: Thank you very much.

Any question or comments?

Ben Knight, Al Weverstad, Bahram Fazeli.

MR. KNIGHT: Good afternoon members of the Board.

I'm Ben Knight, vice president at Honda. I was uncomfortable this morning with the sign-in choices. I could either favor or oppose, but that doesn't fit our position. We're for some changes that would benefit the program and make it a success.
Over the ten-year history CARB's ZEV mandate has been an important catalyst in the development of zero and near zero emission vehicles. Part of its success is that it has been a dynamic process. CARB has recognized the need to make changes when the technology and the opportunity warranted them.

Honda has given a great deal of thought to the ZEV regulation. It's our firm belief that the current staff proposal needs further modification of the ZEV element. We believe that the goals of the regulation can be met and the program improved with these additional changes.

These changes are essential to ensure a ZEV component that promotes promising opportunities, such as fuel cells and allows us to use our resources much more effectively. Staff's proposed modifications will result in significant and positive impact on California's air quality with up to 30 percent of the fleet as near zero emission vehicles by 2006.

However, a critical flaw in the proposal continues to be a rigid adherence to the single specific ZEV technology, battery electric vehicle. Greater success will come from a broader framework that recognizes several approaches to true ZEV.

Honda has been a pioneer in the design,
manufacture and marketing of an advanced battery EV.

After bringing the technology to a high level, we are firmly convinced that a sustainable consumer market simply does not exist for a vehicle with the range, cost and recharge time characteristics available to best meet current and foreseeable battery technology.

So a specific requirement forcing all manufacturers to build battery vehicles would be counter productive to our efforts to advance fuel cell technology as well as to the efforts of the others who want to pioneer and successfully develop niche market applications for battery EVs.

Honda wants to put its resources on an alternative path that can both satisfy CARB and advance the technology we believe has the greatest potential, the fuel cell vehicle. The California ZEV Program which can accelerate the development of this promising technology can achieve greater overall success.

Honda requests that the Board direct staff to develop several ZEV options for manufacturers on the two percent side of the mandate. This would allow each manufacturer to apply its resources to advance the true ZEV technologies it believes have the best prospects.

One option would be for a pure battery EV program. Another option, a program for the fuel cell
vehicles, developed around a set of performance based parameters and milestones. Progress would be measured against these parameters and milestones and demonstrated to the public.

Environmental performance could be one of the parameters advanced during the development. Achievement would be based on technology performance rather than the number of vehicles produced. This is because technology performance is the real foundation for commercial readiness. Keep the true ZEV component but make it forward looking to drive progress on fuel cell vehicles.

I have several additional comments on the staff report. First is, Honda supports technology driving regulations, but progress should be reviewed periodically to assure that technology evolves as was anticipated, when the regulation was conceived, and that promising alternative paths to ZEVs are not overlooked.

The second point, near zero emission natural gas vehicles should earn greater credits based on their exceptional environmental performance.

The third point, staff has created an additional ZEV technology option talked about earlier, that 20-mile plus all electric range hybrid. While we're neutral as to whether it's included in the ZEV portion, CARB should not have high expectations that they will be produced absent
significant and not-to-be-anticipated breakthroughs in battery performance.

Finally, vehicles produced but not sold do not earn multiple credits. This could have negative consequences in the marketing of vehicles, including adverse impacts on the perceived value of new and advanced technology vehicles and/or distressed pricing.

In conclusion, Honda believes that structured correctly, the ZEV program is capable of moving beyond the initial single technology focus and stimulating even more rapid development of fuel cell vehicles. We respectfully urge the Air Resources Board to assure the viability of a ZEV program that drives real technology advancement for the most promising technologies while reducing near term emissions.

All of us deserve to be able to invest in a Zero Emission Vehicle Program that delivers genuine and measurable progress.

Thank you.

CHAIRPERSON LLOYD: Thank you, Ben.

Questions?

Dr. Burke.

BOARD MEMBER BURKE: Mr. Chairman, could we have staff respond to his alternative path suggestion?

DEPUTY EXECUTIVE OFFICER CACKETTE: I think the
key, as I understand it, were the words performance of the
vehicles. In other words, the ZEV option under his -- or
the battery electric vehicle option would be something
like is proposed and the fuel cell option would be a
relatively small number of vehicles which have performance
targets that are, I guess, designed to get us a
substantial number of vehicles sometime after the turn of
the next decade.

So it's kind of a question of one option is a
fairly large number of BEVs that are technically feasible
today versus a different path that has, you know, tens of
fuel cell vehicles in the shorter- to medium-term with the
promise that there might be more of them in the long term,
if performance goals for those vehicles and their
infrastructure are met. I think that's -- is that a
fair --

MR. KNIGHT: Success with ZEV is going to mean
it's wide spread in the marketplace, that's why we're
interested in fuel cells consistent with what Tom said.
But we can have rapid progress if the fundamental
technology is advanced.

BOARD MEMBER BURKE: But he's saying that fuel
cell technology is going to be inherently slower. I want
the words from your mouth, that's what I understood you to
say.
DEPUTY EXECUTIVE OFFICER CACKETTE: I think the key there is that no one is saying that commercial volumes of fuel cell vehicles at any cost would be viable in the same time frame that BEVs are available.

BOARD MEMBER BURTON: And what's your response to that?

DEPUTY EXECUTIVE OFFICER CACKETTE: Meaning 2003 in that case.

MR. KNIGHT: I think consistent with some of the things that you heard earlier, that the successful battery EV marketing also needs to be very well supported in a niche application, and absent basic technology performance. So I think in a sense the similar factors apply. There's a different situation for battery and fuel cell, but I think we can see greater overall benefit for Californians by stimulating the fuel cell vehicle in this pathway.

CHAIRPERSON LLOYD: Thank you. Again, I think we're going to hear some from fuel cell developers here on the status of that technology.

Again, I'd like to thank you and your colleagues. I know how much and how often I've heard from you on how much you want to work with us. I guess we're still trying the find that way.

Thank you.
Al Weverstad and then Bahram Fazeli. And then we're going to take a half hour break, because although I said we're going to go right through, I always forget the court reporter who needs to take a break. So after the next two witnesses we will take a break.

MR. WEVERSTAD: Hi. I'm Al Weverstad. I'm the Director of General Motors Mobile Emissions and Fuel Efficiency Team. And today my comments are offered on behalf of General Motors Corporation. I would point out that today is my first day making these comments in place of Sam Leonard. I recognize I have some large shoes to fill in more ways than one.

CHAIRPERSON LLOYD: Has the message changed?

(Laughter.)

MR. WEVERSTAD: Well, you judge for yourself. You'll judge that for yourself as we go forward here. I would only ask that you be kind as I'm a new kid here. My comments are indeed brief. I would start out that one of General Motors environmental principles states that we will continue to work with all governmental entities for the development of technically sound and financially responsible environmental laws and regulations. That principle has guided our efforts related to the ZEV mandate and is the basis for my comments today.
GM supports the goal of improved air quality. GM supports the focus on technological innovation to achieve that goal. And GM believes that improved air quality and technological innovation must be pursued in the most cost efficient manner.

As discussed in the Alliance comments and in the GM response, neither the current ZEV mandate nor the staff proposal will result in improved air quality and technological innovation in the most cost effective manner.

Knowing this, GM has devoted its efforts to developing alternative approaches to the ZEV mandate. Working with industry, GM developed the fair market test that is described in the Alliance written comments. I recognize the fair market test is not your favorite, but I want you to know that we consider it a unique nonregulatory approach to resolving the complex issue of whether a sustainable market exists for electric vehicles that would enable manufacturers to meet the ZEV mandate. We felt that it provided an objective approach to the resolution of the issues accommodating the interests of CARB and the other interested stakeholders. Now, perhaps we missed the message, but the intent was clearly to address the concerns that you had.

CHAIRPERSON LLOYD: I'd agree with you when you
say unique, that's about as much as I will agree with.

MR. NEVERSTAD: And I would point out that the staff has shown little, if any, interest in working with the industry on developing this fair market test. But we did not use that as our only answer. We then worked with industry to devise another nonregulatory alternative.

The alternative involved the concept of individual agreements between CARB and each manufacturer that would comprehend the essence of the staff proposal, that is improved air quality and technological innovation. The alternative would permit each manufacturer to pursue its particular strength in advanced technologies without having to dilute and complicate that effort because of concerns about the actions of other states.

Unfortunately, we did not have sufficient time to explore this alternative. Other programs could be included in this individual agreement approach. One program could involve something as simple as retrofitting diesel school buses in California with particulate traps, thereby providing immediate environmental benefits to hundreds of California communities. Or we could fund a program to buy back gross emitting vehicles in targeted California communities with the greatest need.

Still another program could involve a cooperative effort with the State to fund distribution of new gasoline
storage cans, thereby helping to decrease the nearly 80 tons per day of ozone-forming emissions by 2010 that CARB has estimated will result from the continued use of old containers of this type.

These are just three examples of the types of individual programs that could be undertaken as part of the manufacturer agreement approach described above. Obviously, one of the questions that would come would be well, how much money would you be able to put into a fund of this type?

I think the metric ought not to be money. The metric ought to be clean air. But let's assume that we're talking money. What kind of range are we talking about here? And our view is the range seen in the Carl Moyer fund ought to be the requirement from General Motors Corporation.

A third approach, formally proposed by GM in its written response, involves a regulatory program that could be substituted for the current ZEV mandate and the staff proposal. That regulatory program would increase the useful life and emissions warranty for certain classes of vehicles up to 150,000 miles.

This useful life extension alternative would provide emission benefits greater than the current ZEV mandate or the staff proposal and costs substantially
less. In short GM and industry have made several, what we consider, good faith efforts to work with the staff and interested parties to develop mutually acceptable alternatives to the current ZEV mandate and the staff's proposal.

But due to a number of factors our efforts have been fruitless so far. Now we are faced with a staff proposal that we believe is a stop-gap approach at best and that does not address the serious underlying problems inherent in the ZEV mandate. We are at an impasse, and we look to the Board for direction.

In summary, as is evident from my comments, GM believes that neither the current ZEV mandate nor the staff proposal will result in improved air quality and technological innovation in the most cost effective manner.

But rather than doing nothing more, GM has devoted its efforts to developing alternative programs. GM stands ready to work with the Board and its staff to develop one of these alternatives into a program that achieves air quality benefits and innovation in the most cost effective manner. We believe that any of these three alternatives represents approaches that are technically sound and financially responsible. And we believe that any of these alternatives will permit us to pursue options
that are more likely to succeed in the long term.

And it is the long-term success of emissions control programs that will provide the most sustainable and greatest air quality benefits for California. Given these circumstances, GM respectfully requests the Board take the following actions.

First, delay its decision on the staff proposal and keep the record open for at least 60 more days.

Second, direct the staff to work with the industry during that period to pursue one or all of the alternatives we have described above. We can pursue parallel paths until one of these alternatives emerges as the best.

Third, require the staff to report to the Board on the outcome of the efforts to work with industry on these alternatives. Fourth, depending on the staff report, require the staff to propose one of the three alternatives and notice the hearing to consider regulatory changes to the ZEV mandate that are necessary to implement the selected alternative. And fifth conduct the hearing and adopt proposed regulatory changes so as to implement the selected alternative.

We are at a fork in the road to improve air quality and technological innovation, and we want to do it in the most cost effective manner. One road continues with the ZEV mandate. The other road holds possibilities...
and promise of alternative programs, both regulatory and nonregulatory. GM urges the Board to join industry on an approach to develop these alternatives.

Thank you for your consideration.

CHAIRPERSON LLOYD: Thank you. I'd like to make a couple of comments before my colleagues here. But one of my, I guess, great disappointments, coming on the Board was not to be able to see and to drive one of the EV-1s. And what a great vehicle you have. And we've now turned that back so that you're not producing those. You had a great opportunity there. We've had discussions about producing some of those. We still don't see any coming into the marketplace.

And now to see that I find it rather distasteful to say now that some of the regulations that we've already passed you want to capitalize on those to divert this program. There's nothing stopping you. For example, we had the gas can program which we passed this year. There is nothing to stop the industry or GM to actually go ahead with that program and take gas cans and not wait for the regulation. You could have done it.

(Applause.)

CHAIRPERSON LLOYD: In terms of costs in that case, you know, and I don't know how much it costs, but I bet you could fund that program with the effort that
you've made to actually defeat the mandate. I would like to see you using those resources positively. We want to work with you and with great sincerity.

You've got great products there. I've been back to your technical center to see that. I don't see them coming forward. I don't see them coming out. I don't see this two-way street. It's delay. It's diversionary tactics. Definitely, we'd like to work with you, but let's see if we can work in a more proactive way.

Clearly, the son of sam is here.

Thank you.

(Laughter.)

BOARD MEMBER WILLIAM FRIEDMAN: Alan, you said some of the things that I have been thinking about. It disturbs me when you talk about good faith efforts. In September I became so aware of the charade of marketing that was put forward by some of the folks that you represent that I don't know what good faith really means when you put it to us today. You know --

MR. WEVERSTAD: Can I answer that question?

BOARD MEMBER WILLIAM FRIEDMAN: Not yet.

MR. WEVERSTAD: Okay.

(Laughter.)

BOARD MEMBER WILLIAM FRIEDMAN: Most of the people here, I guess, took an aptitude test to get into

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college and there was a category of questions. Usually,
it was two statements and the answers were true, false or
true-true or false-true. And if it was true, true the two
statements, they were either related or unrelated, there
was another one of the answers.

Now when you talk to me about, you know, diesel
traps and cans and so forth and so on, the answer is true,
true unrelated.

(Applause.)

BOARD MEMBER WILLIAM FRIEDMAN: And I don't
know -- you know, I've been sitting here today listening
to people tell me why we should delay our determination.
We've been talking about this for 10 or 11 years. And
I've been hearing things about environmental justice as a
reason to delay something that would clean the air for
everybody. And I'm hearing arguments for 60 day delays,
when we've been delaying for a decade what we ought to do.
And it is just -- it disturbs me. I mean the
reasons that so much progress has been made in cleaning
the air with respect to cars is because we have taken a
tough line and we have compromised in the past. And to
compromise the MOA my dear friend, when you talked about
compliance with the MOA, I mean, I sat there in September
and heard all the ways in which there was no compliance
with the intent of that MOA. The specifics maybe, but not
the intent.

So, you know, I think it really is time. I'm sure that we can massage this a bit here and there and so forth. But it is really time to call it what it is and get on with the business of progress. And progress will be made if we continue to stick it to you so that you actually do what you need to do to help our constituency, which is the State of California, and all its kids and all its people. That's all.

(Applause.)

MR. NEVERSTAD: I'm sorry you feel that way. Can I answer? I'm sorry you feel that way, because I do believe that General Motors has been one of the more responsible groups. We have invested a lot of money in both the EV 1, but with other community outreach programs. We belong to CERES. We were the first automotive company to join CERES. Clean air is important to us.

One of the things that we thought the fair market test would do was bring in other ideas on how to market. That was part of the concern. We're not -- the world thinks we know how to market everything and we've got some successes and we have some that we didn't do as well on.

We intended to make that open to input from all stakeholders in looking for help. I would submit to you that while we might not be perfect, we certainly have
tried and we do feel that we're good corporate citizens.

CHAIRPERSON LLOYD: And we appreciate those efforts very much as well. As I said before, we want to work with you and we want to help you actually market the vehicles. But I say, we don't have that product. But I know the efforts that you are making, so we appreciate that.

Mr. Calhoun.

BOARD MEMBER CALHOUN: I won't be quite as harsh as Dr. Friedman. I know the auto industry, all of you, have made a lot of progress over the years in an effort to try and improve the quality of air. And I happened to be a party to a lot of it. And so my feelings are not the same as his.

I guess I was somewhat surprised that I didn't hear any comments about the staff proposal as such. All I heard was about the alternatives. And in this regard I guess I was a little bit disappointed. But I know the State of California and this Board needs the auto industry in order the make some progress in cleaning up the air. I don't think there's any question about that.

The key to me is how do we move things along such that we can get participants from the various interested stakeholders and from the auto industry, being one of the stakeholders, to get that acceptable to the State. And
we've done a lot of this in the past. And the very
thought of not being able to work cooperatively together
in the future really disturbs the hell out of me.
And I have to admit that it's frustrating at
times, but we've made a lot of progress. And I think that
is the only way we're going to continue to make the kind
of progress that's needed. Thank you.

CHAIRPERSON LLOYD: Professor Friedman and Dr.
Burke and then Mr. McKinnon.

BOARD MEMBER HUGH FRIEDMAN: First of all, I just
want to say that I don't recall in 1990 even being aware
of the problem, other than I was breathing it, let alone
of a so-called mandate to be quite honest. My nose was
buried in law books or something else I guess.

But when I think of what's happened since 1990,
and I can remember, generally, what was going on in my
life and around me in 1990, it is remarkable in the short
ten and a half years or so what has occurred in connection
with the kind of vehicles that are running around our
roads and the emissions reductions, and what's on the
drawing board apparently in various ways with your
different makers for the future.

And I do think it's fair to applaud the State and
its agency, the Air Resources Board, and credit it for
much of this, as I think you did, and I think the speaker
before you did. I don't think the stork delivered what happened. And I don't think the automakers themselves alone would have brought us to the point we're at with whatever competition and forces are at work, as was described earlier.

But here we are, and I share Joe's concern that we need the auto manufacturers because they make it. And regulation ought to be something that the subjects of it can work within and will give a good faith effort to do so. I, too, am disappointed that General Motors in particular, which according to what I've read, I don't remember being the witness to it, but having read about it, was in the forefront and a leader in the charge for emission free vehicles, and the battery electric in particular, and the EV 1, I think. Even though it cost you a lot and didn't make a business case for your point of view, as I understand it, it's something that you should be very proud of in terms of what you produced and the affection, the love, the zealotry with which those who were privileged enough among the many more who wanted it, to be able to lease them or get them.

I still hear people talk about it, rave about it and prize what they have. So I guess what I'm trying to say to you is I'm hoping that despite what I'm hearing from the manufacturers, some of them, others have been a
little more willing to say we will make it work if we have
to, I'm really hoping that General Motors, which in many
ways has been a leader in the past can resume some kind of
leadership role.

I don't think that with the flexibility that's
been put into this proposal, however it's fine tuned or
however it may be adjusted and whatever happens to it
today, I think with the flexibility that's built into it
already and the commitment to keep looking at it, not to
say that we're going to abandon it or review it as such,
but as needs arise, it seems to me there's room to work.

And so I just wanted to offer those comments,
because I'm a Chevy owner.

MR. WEVERSTAD: Well, we, too, are very proud of
EV 1 and we're very proud of our EV 1 owners. They're a
very loyal and dedicated group and probably the best sales
people we ever had.

BOARD MEMBER HUGH FRIEDMAN: And I don't think
that in terms of marketing, you mentioned that and then
I'll end. As I've said with Mr. Brown and others, I think
that we need to -- and if it's appropriate to formalize
it, I will propose that to build into our action that we
take, that we commit and we will do our best to, with
whatever persuasion we have, to enlist the kinds of
participants and stakeholders that you had proposed and
others in the fair market test so-called to help market them and help educate the public about them.

You know, those elements are built into this and it's in recognition of the fact that we need to make sure that this time the good old American try is made fully to market and gain public understanding and acceptance of the various kinds of new technology vehicles that have lower emissions, so that people will accept them and that they can be sold at or above cost in the main.

CHAIRPERSON LLOYD: Thank you. Dr. Burke and then Mr. McKinnon, and then Supervisor DeSaulnier.

BOARD MEMBER BURKE: I'm sorry that Supervisor Roberts isn't here, because he's my numbers guy on the traps.

CHAIRPERSON LLOYD: He may be listening.

BOARD MEMBER BURKE: Yes, I know.

CHAIRPERSON LLOYD: Dr. Burke, if you could speak close to the mike.

BOARD MEMBER BURKE: I've almost got this thing in my mouth.

(Laughter.)

BOARD MEMBER BURKE: I'm sorry I mumble a lot. I just can't help myself. It's fairly obvious that the Chairman is not real thrilled with General Motors right now, but he wants to work with you.

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CHAIRPERSON LLOYD: Disappointed is the word.

BOARD MEMBER BURKE: Disappointed. And you know Dr. Friedman, I think, expressed the comments that any number -- both Dr. and Professor Friedman expressed the comments --

BOARD MEMBER WILLIAM FRIEDMAN: I'm a Professor too.

(Laughter.)

BOARD MEMBER BURKE: You want all those kudos. (Laughter.)

BOARD MEMBER BURKE: But I want to assure the doctor that when people who talk about environmental justice and things of that type speak about it, they do not take it lightly. And it is an issue that if we don't continue to discuss it and discuss it in all parameters, it will not be discussed. And I don't have to tell you that because in the year I've known you, I know you're pure of heart. I will testify that before anybody who ever asked me that if an environmental justice issue comes up, that you're going to be right there in the front line battling it.

But I don't think that those people who have used that as a, for whatever perspective, used it out today, I don't think they did that lightly. And they may have been not correct in their assessment in your view, but in their
view, we know that I think that they were speaking from
the heart also.

But I wanted to -- and I'm the new guy on the
Board and so I really, you know, have been trying to catch
up. I know I've spent some time in the pits down in South
Coast, but when car companies, we testify that cars are 97
percent cleaner than when we started the program,
obviously people who sat on this board before us have
obviously driven the point home and obviously they've done
an almost miraculous improvement in auto emissions or you
wouldn't be at 97 talking about on your way to 99.

But I think that the Chairman has a real point
where he says that, you know, we really should have been
here before. Now, you know, I make deals for a living.
And I don't -- this is a -- I'm going to tell you I'm
going to vote for this thing now, so I'm not trying the
make a deal here and change anything on here. I'm a ZEV
mandate advocate, but I'm a realist also.

Did I just happen to hear you say that you know
how much was in the Carl Moyer Fund? Do you have any
idea? How much was it?

MR. WEVERSTAD: Well, in the hundred million
dollar range.

BOARD MEMBER BURKE: So what you're telling this
board is that -- you see South Coast could use a $100
million. I mean, you know, you might get me to change my
mind a little if we were going to do a pilot program for
South Coast for 100 million. But are you saying to this
board that for some figure north of $100 million, General
MOTORS would provide air quality mandated by this board in
areas required by this board so we could meet this
environmental justice issue?

Because you see, what I'm sitting here thinking
about when I hear that is well, if I have every car
company in the ZEV mandate, but I use $150 million to $200
million of a single company's to go in and all of a sudden
take away the pollution from school buses, and we're one
week from the announcement of the school bus test thing
which I happen to know is just devastating, if I can cure
all the school bus pollution in the State of California,
and that's why I wish Supervisor Roberts was here, because
I know we had this debate last time he was running
numbers, but so were you, and running these numbers on the
entire school bus -- if I could cure the whole school bus
issue in the State of California, I mean that -- I'm not
saying we should do that. I'm saying we should at least
listen. This is the first time I'm hearing it. Maybe
some other members of the Board --

Mr. Kenny, you have heard this before?

EXECUTIVE OFFICER KENNY: Actually, I just walked
in, I missed the offer.

(Laughter.)

BOARD MEMBER BURKE: Hey, you better stick around buddy. We're going to drive the price up. David Freeman shouldn't have left. But I just think it's at least something that we ought to consider for the benefit really of the people of the State. I'm a ZEV mandate advocate. I'm going to be there when the vote comes, but I think this brings to light a facet which I think deserves some study, because if you're talking about -- we don't -- we were in here the other month just arguing over $50 million and trying the figure out how to distribute it and it's never enough.

And if we find 150, if you bumped up the offer a little bit, you know, give me a 100, I'll take 150 --

(Laughter.)

BOARD MEMBER BURKE: -- I think, it, you know, makes all the sense in the world to me if it cures a major problem in the State.

BOARD MEMBER WILLIAM FRIEDMAN: Bill, now you're really confusing me, because my whole point about environmental justice is that the way to deal with that issue has to do precisely with diesel issues, with factories and so forth and so on, and I fully subscribe to that. Am I hearing that we can buy out of the ZEV mandate
BOARD MEMBER BURKE: I didn't say that.

BOARD MEMBER WILLIAM FRIEDMAN: Well, how do you think their 150 million is going to come to us? It's going to come instead of what we're proposing they do to advance technology.

BOARD MEMBER BURKE: Well, if I had 99 percent of the companies in a ZEV mandate and I had one percent out, and I cured a problem in the entire State of California and I still was driving the other companies to meet the technology and the goals that we are doing, I'm not saying do it. I'm saying that's something I haven't heard of.

BOARD MEMBER WILLIAM FRIEDMAN: So we put to bid who will be in the one percent. I really, you know, I have a lot of trouble with this. The State surplus is way more than $150 million. Environmental justice is an issue for everybody in this state, not for one car maker or the other.

And I thought the issue here had to do with electric vehicles. And it's becoming a little more clear to me why we've been asked by Legislators to delay this. I don't understand what exactly the agenda is here. I thought that the agenda was pretty clearly that we carry forward from the September meeting some modifications to the ZEV mandate and see where we stand. And I've seen in
the newspapers arguments about electricity, which, thank
heavens, Mr. Freeman was here to put the kibosh on a most
absurd kind of editorial articles and so forth.
And I still, my comment earlier about
environmental justice, of what it was doing as part of
this discussion, I'm still confused by why it surfaced
now. I've taken care of people my whole life. I don't
care whether they're here legally, illegally, poor, rich,
whatever, what color they are, and so forth and so on, and
I can't imagine why that is a concern over ZEV. I mean
it's a concern for everyone in a million other ways.
(Applause.)
BOARD MEMBER WILLIAM FRIEDMAN: But how it
surfaced at this meeting is beyond me. You know, I'm not
a politician. Maybe there's something going on that I
should know about, but I don't know about it.
BOARD MEMBER BURKE: If you know why they're
asking for a two month delay, you've got to explain it to
me, because I really don't understand that one either.
BOARD MEMBER WILLIAM FRIEDMAN: Well, I don't
either. To me -- look, I went. I've been in those
communities. I see what the problem is. I see smoke
stacks spewing into school yards and so forth and so on.
And we've got the do something about that. That's also
true. But now we're dealing with an issue that we've been
dealing with for 11 years. And all of a sudden there's
three or four more elements that are --

BOARD MEMBER BURKE: But during that 11-year
period, doctor, you know this has been part of our mandate
to help try and cure that problem. We haven't been able
to do that. Now, no question that that's what we're here
for today. But if we have an auxiliary potential to do
two things instead of one thing, I think that that's --
because even though we have over a billion dollar surplus
in the State of California, I guarantee you not $20
million or $30 million would ever in my lifetime be
designated to try and to cure the problems which exist in
these peoples' communities.

BOARD MEMBER WILLIAM FRIEDMAN: I just don't want
to be part of a buyout by industry of an issue that we're
supposed to deal with on its own merits. And that's what
disturbs me about this teasing of what we're going to do
with environmental justice, because to me that's what it
looks like. It looks like I'm being teased to modify my
view that we owe the whole state a firm position with
respect to advancing progress in cleaning the air for
everybody. So I just, I've said enough, but it really has
troubled me.

CHAIRPERSON LLOYD: Can I just -- I'd like to
move on. I know I've got two of my colleagues there. But
point of clarification, I think my understanding from our long debate on school buses that a $150 million, even if it's $150 million, would not cure the issue unless you went to one approach there. And obviously, because school buses don't operate for long hours, that takes care of a piece of the problem, but maybe, Mr. Kenny, a clarification on that.

EXECUTIVE OFFICER KENNY: Well, just going back to essentially what we were doing last month, with regard to the school buses, we had talked at that point the time about the roughly $50 million we had and the $37 million that was going to be used for purchases of new school buses. And I think our calculation of the $37 million is that it bought us roughly, I believe, it was been 600 school buses. I may be off a little bit, but it was in the hundreds. And the existing school bus fleet for the State was 24,000. And so the problem we had was that we got quickly into a multi-billion dollar program in order the substitute all the school buses.

CHAIRPERSON LLOYD: Thank you.

BOARD MEMBER BURKE: But that was substitution, not retrofit.

EXECUTIVE OFFICER KENNY: Retrofit, retrofit is substantially cheaper. And, in fact, one of the things we had talked about last month was that if we had used all of
the money for retrofit purposes, we could have gotten
approximately half of the school buses retrofitted.

BOARD MEMBER BURKE: We couldn't have taken care
of that bus company in Chicago.

CHAIRPERSON LLOYD: All the natural gas that you
are pushing down at South Coast. I think -- let's, Mr.
McKinnon and Supervisor DeSaulnier.

BOARD MEMBER McKINNON: Yeah, I was the person
who was pushing using all the money for retrofit to fix
the most buses for kids, if you remember. And it seems to
have been forgotten.

But there's something, there's an old saying, and
I believe it's attributed to native Americans. And the
old saying is when you think about how to shape policy,
you think about how it affects not just this generation
but the next generation and the next generation. And when
I think of this board, oftentimes I've been one of the
more conservatives, saying keep diesel in the mix, and
that kind of thing. So I realize that there are
short-term things we need to do to keep our economy
running and slower fixes and some fixes that are dirtier
than others. But we have to have a long vision. And
there has to be something that we're doing that's a long
vision.

Now, I don't think it's funny at all to equate
buying out environmental justice issues for 100 million
bucks. I find it insulting. I have found this campaign
to be outrageous in talking about things in that way. But
one thing is assured, one thing is assured, there were two
very fine men that were here, the State Assemblymen, and
there are more State Assemblymen that environmental
justice just went to the top of their page to look at.

And I think this board, over the last -- since
its existence, but certainly since I've been around to see
is moving to deal with environmental justice issues. And
certainly if there have been meetings that people haven't
felt welcome to, we can fix that. But it's not something
that should be bought along the way.

And I am just outraged with that proposal. You
have no idea, you have no idea what some of the conditions
in the communities we're talking about are like. And
something seriously needs to be done. But the two being
connected and being connected for a price, quite frankly,
sir, your company's reaction to our stationary source, I
don't know your reasons, but certainly the Automotive
Alliance gave me the reasons. Auto companies closed all
their plants in this State except one. And that had to do
with mobile source emissions.

So I would love you to go back to those State
Assemblymen and tell them you know if I had a plant, my
idea of environmental justice is I'd close the plant. I
am real, real angry about the direction this debate has
taken. I want to try to be respectful that your company
did the best job in the early days. I did follow it. We
were very interested -- I was an aerospace worker. We
were very interested in how aerospace materials were going
to fit into the new technologies involved in electric
cars, very interested. I followed what you did.

And it was the best. You started from scratch
and you did the best. And I'll temper my remarks with
that. But the strategy of this campaign over the last
couple of weeks has been outrageous.

CHAIRPERSON LLOYD: Supervisor DeSaulnier.

MR. WEVERSTAD: Can I respond to a little bit of
that and some of the other comments. What I did was
suggest that one of the advantages of doing an MOU, an MOA
with individual manufacturers allowed the flexibility to
do many varied things. I didn't -- I don't know where the
rest has gone off in tangents, but our proposal was to
explain to you why doing an MOA with individual
manufacturers allows for a wide variation of options, one
of which may include the diesel bus retrofits. It may
include going totally with the staff proposal.

We just wanted to show flexibility. And I'm
sorry if somehow you have connected that with something
else. That was certainly not the intention.

CHAIRPERSON LLOYD: Thank you. Again, we're not trying the kill the messenger either.

BOARD MEMBER BURKE: Mr. Chairman, I'd like to make the closing comment. You know, you immigrated to this country, your family. Mr. Firebaugh's family immigrated to this country. I was brought here. I didn't ask to come here, but I'm here now. I didn't immigrate. I can't figure out how you classify it.

And for you to be outraged, I really appreciate that, I really do, because there's a lot of people who don't care about it. But for you to be accurately outraged, you have to come and live with us for awhile, because I've met a lot of outraged people in my life about it, but they really don't understand the issues which we live with today.

Now, you're ready for it to go on forever until you find the cure, but to those little 7, 8, 9 year old kids who are living in it today, they're not really interested in the long-range policy of it, and Dr. Friedman doesn't want to treat them when they're 10, 11 and 12. So I understand your outrage. I've got the same rage in me. I try and contain it as you do. But I see it from a little different perspective.

CHAIRPERSON LLOYD: Supervisor DeSaunlier.

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BOARD MEMBER DeSAULNIER: Thank you, Mr. Chairman. I've been sitting here and it's interesting always trying the gauge your emotions when you are listening to this kind of debate, and I appreciate my colleague's comments. And I also think in the three or four years I've been here, I've always been very proud to be associated with all the members here and the staff.

Al, I do think that your testimony today, and this comes from somebody who, from a historical perspective at least, has great admiration for General Motors in many ways, but I think your tone and your delivery today was very unfortunate for your company. And I do believe that what we did in September actually, if we want the trade votes, I'm inclined to stick by what we voted for in September. So if we're going to trade, we should start from that perspective, not from the staff recommendation.

But I would like to ask staff a question. We've had the auto manufacturers now all come up and suggest a delay and say that there's some hope there. From your perspective, what would we get from 60 days that we haven't already gotten?

EXECUTIVE OFFICER KENNY: I don't think we would get anything from 60 days in terms of the delay.

BOARD MEMBER DeSAULNIER: Thank you.
CHAIRPERSON LLOYD: Thank you very much, Al.

Now, we've got Bahram Fazeli from the Communities for a Better Environment. And I would hope that we can move on. After that we're going to take a half hour break for the court reporter and eat lunch and we do have to give you a chance to do that.

But I would like after that to please put this particular issue behind us and really get focused on what we have to do. We've got a lot of work to do, a lot of things to listen to this afternoon, a lot of stakeholders to present, so I really appreciate you coming today, and I appreciate your letter from Carl.

MR. FAZELI: Thank you. My name is Bahram Fazeli. I'm the staff scientist with Southern California Region for Communities for a Better Environment. And I am going to address some of the environmental justice issues.

I just want to say to the representative from General Motors that they are very welcome to contribute to the environmental justice cause in California. I would suggest that even if they contribute one thousandth of one percent of their profit annually to the cause of environmental justice in California, we would be content. And I don't think that anybody is stopping General Motors from being ahead of regulation. So if they, in fact, do care about clean air, I would suggest that they take the
I'm going to read a letter written by Carlos Perez, Executive Director of Communities for a Better Environment, addressed to Dr. Lloyd and distinguished members of the Board.

"I am writing this letter on behalf of Communities For a Better Environment, CBE, to request from the Board to approve the zero emission rule without any delay and with amendments to strengthen the effectiveness of the program.

"As you may know, CPE is one of the leading environmental justice organizations in the State of California and in the nation. Our work in community education and organizing technical research and legal advocacy has empowered lower-income communities of color to influence policies and decisions that affect their health.

"I was very alarmed to see that some members of the industry have relied on a campaign of misinformation by exploiting the theme of environmental justice in order to advance their self interest in delaying the ZEV Program. Let me assure you that a speedy adoption and implementation of the ZEV Program would benefit all Californians, including members of our communities consisting of lower income people of color, who have
suffered from a disproportionate impact of the stationary
and mobile sources of pollution throughout the years."

(Applause.)

The ZEV Program must be implemented alongside
other policies that rely on the precautionary principle
and a vision that takes a preventative approach to public
health. One of those policies the implementation of a
comprehensive statewide environmental justice program that
can reverse the course of years of environmental inequity.
The neighborhood assessment program has the
potential to achieve this goal and CBE is working with ARB
in the front. We hope to see a strong support from the
Board in this endeavor as well.

"I also want to commend the staff of ARB for work
in bringing the ZEV rule before the Board today after an
extensive effort of outreach for public participation and
policy analysis. Our colleagues at Coalition for Clean
Air have suggested amendments to strengthen this rule. I
strongly urge the Board to approve the staff proposal
without delay and with the suggested amendments."

Signed Carlos Perez.

CHAIRPERSON LLOYD: Thank you very much. Any
questions from the board? Thank you for coming. We'll
take a half hour break. After that, because of time
constraints with certain people here we will take Robert

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Stempel and Steve Kirsch being the first two after lunch.

(Thereupon a lunch recess was taken.)

AFTERNOON SESSION

CHAIRPERSON LLOYD: Who's going to speak first,

Sonia Felix.

MS. JENNIE LAGUNAS: Bella Lagunas is here.

CHAIRPERSON LLOYD: Okay, Bella Lagunas and

Jennie Lagunas.

MS. JENNIE LAGUNAS: Hi. Good afternoon. I'm going to be translating for my mom, so she's going thepeak in Spanish and then I'll just tell you what she says.

CHAIRPERSON LLOYD: Thank you.

MS. BELLA LAGUNAS: Well, her name is Bella Lagunas and we're here with the Boil Heights Mejoramiento Project. She wants the tell you about a problem that we've had for 18 years, because we live next to the 5 Freeway in Los Angeles. My mom suffered from cancer years ago and my brothers and I have suffered from various allergies, asthma, bronchitis. And many people in the neighborhood have also suffered from cancer and the same diseases. And what she understands now is that the solution you guys are proposing to bad air is electric cars.

We see it as the air solution for rich people,
but for us who live in, you know, these poor minority communities, it would be very hard for that to work for us. Like I said before, our incomes are low. We're all mostly minorities and what we would really like the know is if there could be other alternatives for us or if there's something else, you know, that could be done, because honestly speaking we can't afford those cars. You know, and I know that's a really great solution and it's really good but, you know, for us that's a problem right now.

So we are not opposed to the idea of electric cars at all. We think it's a really good idea, but like I said it's not something that we can look at that is beneficial to us right now. SO what we would like to know if there's like maybe -- if we could have more time the maybe like get programs that can help us or help get other communities involved, because right there where we live its about like this four block area and everybody is like getting sick.

But I'm sure that there's other minority communities that are having the same problem, but they haven't been spoken for, so we need the get together with them also and they need to have their voice heard. So we're not opposed to it. We think it's a great idea, but we just are asking for possibly more time
for maybe more to help us, because it isn't, you know -- it's hard for us because, you know, we're from -- we have lower incomes.

And I think that's it. Thank you for your time.

CHAIRPERSON LLOYD: Thank you very much.

Mr. McKinnon.

BOARD MEMBER McKINNON: Ma'am, a question. Boil Heights where the 5 comes in and the 101 comes together, do you have a lot of truck traffic on the freeways there?

MS. JENNIE LAGUNAS: Yes, we do. As a matter of fact our house is right next to the freeway. The only thing separating us from the freeway is a fence and a couple of trees and it's crazy, the noise, like the freeway is right next to us and then the entrance is one block away, right at a dead end, so the trucks are always going through there.

BOARD MEMBER McKINNON: Have you heard or have you been aware that this Board in the last several months has done a lot of work to deal with diesel, how diesel engines need to be cleaned up over the next several years. And sometimes it's putting filters on the back of the diesel and as the engines get better making sure they get better and that kind of thing.

So what I wanted to make sure that your mother knew is that this is sort of -- the electric car is sort
of like the long vision, but there are much shorter-term things that we have to be doing all the time and improving. That's one thing I want to be sure you knew. The other thing we should make sure we know is how to get a hold of you and your organization and your community to make sure that when we do have hearings in Los Angeles, you hear about it. And actually this woman Kathleen, right here, is the person who's responsible for making sure that all the stakeholders are engaged in our processes. And we heard a little bit earlier that we may have some weakness at how we're doing that. And to the extent we do, it would be real important to make sure we know how the get a hold of you and to include you. I think we're going to have a meeting in Los Angeles fairly soon.

MS. JENNIE LAGUNAS: That would be great.

BOARD MEMBER McKINNON: Thank you for coming all this way.

MS. JENNIE LAGUNAS: They all told me about it. It was like, yeah, I've got the miss school, I'll be here, you know. No, you know what I mean, but it's important. (Laughter.)

CHAIRPERSON LLOYD: Thank you. Is Sonia Felix there? No.

Okay, so this is Margarita?

MS. SANCHEZ: Margarita Sanchez.
CHAIRPERSON LLOYD: Pleased to see you.

MS. SANCHEZ: Good afternoon, Dr. Lloyd and board members, audience and every -- all the participants here.

Dr. Lloyd, you did receive a letter from our organization. And from the get-go we are supporting a 90-day postponement of the decision on this. We feel that there are issues that need to be addressed. And the first issue, of course, is one of the heavy difficulty of having the presence of minority people and poor communities represented the some of these hearings. It's very difficult for us just to get here, much less to be invited here. We just found out a week ago and not through your sources, although we have been dealing with the ARB and the SB 25, thank you for our monitor that we'll be getting.

A 90-day postponement for -- and there's a number of reasons for it. First of all, I wanted to address a question about minorities presence here in the meetings. And I'd like to the that what it looks like to me is something like maybe we're hitting the statistics of 30 years ago rather than the the statistics, both with the Board Members and with the audience. And even in the the percent of women I don't think we're properly represented either. And that's not very unusual being that we're so behind in the education and the the income
process due to the the historical factors.

But it's evident, and this thing gives a
different perspective at the Board level than it does in
our communities. In our communities we are facing life
and death. As my neighbor just pointed out not only is it
her home but all through the the we are having multiple
deaths by cancers of the elders, of the grandparents and
excessive amounts of asthma, respiratories, dermatitis,
too many sick days off from school, from work, everything
there.

Our communities were and our low income
communities were the victims of environmental injustice
when they put the freeways in. We were the the
communities that didn't have the the nor the income nor
the lawyers to combat the the as South Pasadena has
successfully done, and not only one freeway but we got
them all.

And in our recent look of the maps from the
Department of Transportation local offices, they have our
streets listed as truck routes. Our traffic does not
decrease. It increases. Every day the traffic increases
because we are the theroads into the industrial centers
and into the downtown and into the the. And we get the
fallout.

You may get a small decrease in pollution because
of the overall work that you do, and we still get an
increase in pollution. This is a fact of life with us.

We have illnesses. We can't even keep our homes
clean. Everyday the the is permeated through our homes no
matter how tightly we try to the our windows. The the is
horrendous. We can't sleep. Our kids are irritated.

They can't study. We can't keep the windows open during
the summertime. Our cars are filthy. Every day, you
know, you wash your car, the next day it's just got all
this grime on it.

This is what we're ingesting. This is what we
are subject to. This is the our immune systems are
subject to. We need some immediate help. We've been
organizing on this, speaking at all levels of government
including the AQMD hearings and the stuff on diesel over
the the year. And previous years to that we have made our
presence in the various areas.

And, as of yet, the the thing that we have gotten
was at the the level with the the of our City Councilman
Pacheco and Senator Polanco to get us a tonnage limitation
on our city streets, city residential streets, so that we
would not have these big diesel trucks 24 hours a day
often two a minute in front of our house with all their
fumes going into our air.

That is all we have been able to achieve. No
soundwalls like the big communities, no kind of filtration, no foliage on the freeways. And here we come, and are dealing with these electric cars. And the solutions or possible solutions let's say that could be considered such as hey, tap into some of that auto money. I'm not saying all of it. Keep on the road. I mean this is a very heroic road that you've taken over the the ten years, and we're very commending of it.

And in the scientific and educated and whatever communities, environmental communities, we're very happy to see that we haven't backed down as a State from the auto industry because they are so hesitant to go through with changes.

But on the other hand we're dying while this heroic effort is being made.

CHAIRPERSON LLOYD: I'm concerned. My understanding was you all had a 3:00 o'clock flight to catch. I'm concerned if you go too long you're going to the that, but we will listen.

MS. SANCHEZ: A little more.

So we definitely would like the 90-day extension. Please give it to us. We would like stakeholders participation. We need our poor communities involved and we need some immediate results, things like filtration on the buses. Tap into some of the automotive industry money
for things like that. And there's some other creative
solutions that are in the air. That's what we're here
for.

And we thank you very much for your attention.

CHAIRPERSON LLOYD: Thank you for taking the
time. And I think, as Ms. McKinnon said, we are down in
the community next month in Southgate. We'll make sure
you get that information. The the thing I think on it,
while it's called a Zero Emission Vehicle Problem. It
includes a lot more technology than battery electrics.

But we clearly need to get that information to you and
explain it to you in a better way.

MS. SANCHEZ: However, I understand that the
differential on the credit system given to the other
alternate technologies makes it less likely to be explored
in the industry because they're not getting the credits in
the balancing books that you've got going for you.

CHAIRPERSON LLOYD: Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah. I can't help but
comment that the most notable California home grown labor
leader, Cesar Chavez, started out as a neighborhood
organizer not far from where you live and that's --

MS. SANCHEZ: Well, our parents knew each other.

BOARD MEMBER McKINNON: Did they. Yeah, yeah. I
think --
MS. SANCHEZ: The same city, just different situation.

BOARD MEMBER McKINNON: I think that we have a lot to do on diesel. And some of the --

MS. SANCHEZ: Well, get our buses fixed with some of this money. That will help a little.

CHAIRPERSON LLOYD: We are doing it.

BOARD MEMBER McKINNON: How about getting buses fixed anyway, right. I mean --

MS. SANCHEZ: Well, you guys had that decision a few months back, didn't you. I mean, the last time we testified, but it got sort of watered down, delayed, excuse me, something like that.

BOARD MEMBER McKINNON: The transit bus rule or school buses?

MS. SANCHEZ: That and heavy equipment and --

BOARD MEMBER ROBERTS: I'm not going to comment, but she's partially right. And at least her arguments are not falling on deaf ears over in this part.

MS. SANCHEZ: Please give us the 90 days. We'd like to be stakeholders.

CHAIRPERSON LLOYD: Thank you very much. Thank you for taking the the to come.

Now, we have Elsa Lopez and then Dr. Thomas Dailey and Robert Stempel and Steve Kirsch.
Hi. I'm Elsa Lopez. I'm the Executive Director for Mothers of East LA Santa Isabel. We're a women's community based organization. And we have always supported the ZEV Program. The thing that we don't like is that we were never included.

Our community was never included. And as if you heard before, when my representatives were here and the I heard out there of them being stupid is the why SB 115 is here, because we're tired of going and being the of everything. We should be included in everything -- in the decisions of California.

It's not that we don't care about clean air. If we didn't care about clean air, we wouldn't do asthma projects, we wouldn't do automotive maintenance projects with the residents, because if you go into east LA and to a lot of the low-income communities, it's like Cuba. You see all these old cars 10, 15, 20 years old.

And we've taken it upon ourselves as an organization to go out there and assist them in maintaining the so we could have less pollutants out there.

And for anyone out here to say that our organization sells out to anybody, we don't. If GM comes in and says they have incentives, have them do the they've been doing and more and give the incentives, take
them on then, but include them in those electric cars for the the that can't afford them, because I know the people in my community can't.

Maybe one day the the are going to be low enough for them to afford them, but at this point they're not. And that's one thing that has to be said. We've worked with the Air Resources Board and other things to do outreach. I'm committing we're there. We'll get you if you need 2,000 people there, we've gotten them for other projects, and we could get it for this. But you need to the into our community and let them know the the of the electric cars and other alternatives that are out there.

Thank you.

CHAIRPERSON LLOYD: Thank you for coming.

Dr. Thomas Dailey.

Thomas Dailey?

Then Robert Stempel, Steve Kirsch, Paul Lancaster, Dan Kelly.

DR. DAILEY: Good afternoon. My name is Thomas Dailey, and I'm here today on behalf of the American Lung Association of California and its medical section, the The Thoracic Society, to urge the Board to maintain a strong Zero Emission Vehicle Program.

I am also here on behalf of more than 40 physicians and medical professionals who have signed a
letter specifically calling on your board to adopt the
strongest possible Zero Emission Vehicle Program and more
specifically to strengthen the the recommendation to
increase the the of ZEVs that auto makers are required to
produce over the the decade.

These physicians and medical professionals, like
myself, work with patients with lung disease on a daily
basis and feel strongly about the the to break our
addiction from gasoline and its polluting impacts.

I'm the The of pulmonary medicine at the Kaiser
Permanente Medical Center in Santa Clara. I also serve as
Chairperson of the Northern California Kaiser Permanente
Pulmonary Chiefs and serve on the Board of Directors for
the American Lung Association of Santa Clara and San
Benito counties. It was a nice day to take a drive up
from the the bay.

As a pulmonary physician I witness firsthand the
effects of air pollution on our community as my patients
have more breathing problems on heavy air pollution days.
As an asthmatic myself I experience firsthand the harmful
affects of smog along with my patients. I often recommend
exercise as a necessary component of any medical program
designed to the asthma and try to the an example for my
patients in this way.

Two years ago I biked across the country from
Seattle to Washington D.C. to raise money for the American Lung Association. Increasingly, however, I find it necessary to balance the benefits of exercise with the deleterious effects of air pollution in California, both in managing my patients and my own asthma. I cannot safely advise my patients to take advantage of exercise on days when ozone reaches unhealthy levels and increasingly frequent occurrence.

Asthma sufferers will benefit from a strong ZEV Program. Today, there are more than two and a half million Californians who suffer from asthma, including half a million children. For them, exposure to air pollution can exacerbate their asthma and trigger asthma episodes. In California, the rate for childhood asthma has increased by an astounding 75 percent between 1980 and 1993, 75 percent.

Asthma sufferers are among the most sensitive individuals who are hit the hardest by air pollution episodes. While asthma is a widespread problem, it is particularly prevalent in central California as demonstrated by the facts. Fresno county has the highest death rate from asthma in the state, third highest in the state. Among chronic illnesses, asthma is the one cause of school absenteeism in central California. Asthma is the one...
disease related cause of emergency room visits in central California.

Our children's health future depends on a the ZEV Program. I know you're aware of the recent research demonstrating how vulnerable children are to air pollution exposure. I appreciate your role in sponsoring much of this research. We now know from USC's long-term children's health study that children are affected for life by their exposure to air pollution in early years.

We know that the the of children in highly polluted areas actually develop more slowly and have less lung capacity, making them more vulnerable to the theset of lung illnesses or chronic respiratory disease.

Your board recently heard research findings showing an 83 percent increase in school absenteeism for children living in high ozone areas in southern California. As we begin to the more clearly the chronic effects of smog on children's lungs, it becomes more imperative for your board to press for the technology breakthroughs needed to dramatically reduce vehicle pollution in our communities. We need a strong ZEV Program now more than ever.

The outcome of this hearing will affect me both personally and professionally. Your decision will help determine how many Californians will develop lung disease.
in the the decade. Your decision will help determine how much lung disease I will diagnose in my career, and how many patients I will treat for lung disease in my lifetime.

On behalf of the American Lung Association and the the 40 physicians and medical professionals who signed our letter to your board, I urge you to do everything possible to launch a successful ZEV Program. Adopting the strongest possible ZEV Program is critical to improving public health for communities throughout California. It's a matter of life and breath.

Thank you.

(Applause.)

CHAIRPERSON LLOYD: Yes. Thank you. A question, Dr. Dailey.

BOARD MEMBER RIORDAN: Dr. Dailey, thank you very much for your excellent testimony. I'm interested because I think this is a significant statistic about the the rate for childhood asthma, and it goes to 1993. Could you estimate what may have happened between 1993 and today in terms of that?

DR. DAILEY: The the statistics that we have, it obviously takes years to go through the data and confirm what was truly asthma death, but the best statistics that we have suggest that this epidemic is continuing and there
are a variety of theories as to why, but certainly the
most prevalent theory is that there is a significant
contribution from air pollution exposure in terms of
children's lungs being exposed to air pollution and
therefore developing an increased incidence of asthma and
an increased incidence of asthmatic attacks in our very
youngest citizens.

BOARD MEMBER RIORDAN: Thank you.

CHAIRPERSON LLOYD: Thank you very much.

Mr. Stempel, Steve Kirsch, Paul Lancaster.

Sorry to keep you there with a couple of false
starts, but I appreciate your patience.

MR. STEMPEL: No problem. Thank you, Mr.

Chairman and board members for the opportunity to appear
today before this board considering the amendments to the
California Zero Emission Regulations. I'm chairman of
We manufacture and sell advanced energy storage products,
such as metal hydride batteries and solid hydrogen storage
systems as well as advanced energy generation products,
such as thin film photo takes.

My last appearance before this Board was the
review hearing on September 7th, 2000 where I outlined the
various factors, the cost to manufacture EVs and HEVs, the
energy level and costs associated with our advanced nickel
metal hydride battery products, the production volumes
needed to economically produce these batteries and the
actual mileage achieved with nickel metal hydride
batteries.

And, at that time, I urged the Board to keep the
mandate with the volume adjustment to assure a smooth
startup and incentives to increase the volume in EVs every
year after 2003.

We're all aware of your charge to the staff and
the the very thoughtful and positive response. Now, the
ZEV era is about really to begin and is it going to just
be slow or is it really going to take off?

We're pleased to see the recent HEV introductions
from Honda and Toyota and hear about the the HEV
introductions from GM, Ford and Chrysler. But on zero
emission, HEVs can reduce fuel consumption, lower exhaust
emissions and reduce greenhouse gas emissions.

As you might expect, I would like to the less
credit for HEVs with conventional technology, that is lead
acid batteries and current emission controls, more credit
for advanced batteries and advanced IC engine controls.
The hybrid vehicle is a really good transition vehicle to
battery EVs or fuel cell EVs.

Since it gets electric drive on the vehicle along
with the controls, it's an important first step towards
zero emissions. We're especially pleased to see staff's
support of the plug-in hybrid with a minimum of 20-mile EV
range. For most daily trips, that car will operate as a
ZEV vehicle.

At ECD we share this Board's vision for ZEVs,
mORE people driving more miles even with cleaner gas
engine cars. Personal transportation with zero emission
is absolutely necessary within the central city and
metropolitan areas where pollution pockets are the
greatest. We need to encourage high volume, affordable
introduction of battery EVs and fuel cell EVs to maintain
this transportation system. We don't need another
demonstration program. We don't need another hundred
vehicles. We need thousands of these vehicles that will
serve customer's needs at an affordable price.

We also need delivery and utility vehicles that
are cost effective for postal delivery, service cars and a
multitude of public service vehicles that operate in the
the, relatively few miles every day but lots of hours of
operation.

Now, since the September 7th hearing, it's been
interesting to hear the different OEM comments on the
volume of product needed to make advanced vehicles
practical and affordable, EVs, HEVs fuel cell EVs.

To me it's been a great interest to hear the auto
makers confirm that until we're talking 100,000 to 200,000
vehicles a year, the typical economies of scale that make
autos affordable for the average customer just are not
there.

During the recent North American international
auto show on January 9th in Detroit, Mr. Pierce, the vice
chairman of GM introduced the GM Paradigm hybrid system
starting in production in 2004, initially at a volume of
7,000 per year but rising to a hundred thousand a year in
just a few years. Mr. Pierce opined that 100,000 vehicles
per year, the the of the hybrid system would be about the
the as a regular SUV or full-sized truck equipped with an
IC Engine meeting future emission standards.

It was very interesting to me since it added two
electric motors, controls and a battery. I think volume
does make a difference. After the show you were contacted
by some potential battery customers who also told us that
volumes in the the range would be necessary.

Now, why do I continue to the the volume issue in
these hearings? Volume is the key to cost. Yes, we have
to simplify the design, reduce the the of parts, eliminate
expensive materials, but volume is the ultimate key to the
reduction.

2003 may be the theing point, but by 2006, 2007
our suppliers need to the we're planning typical high
volume automotive components. That's necessary to make
the capital investments now that lower the the in the
future.

When we ask for quotes on parts for 500 or 1,000
vehicles, our suppliers look at the order and don't
consider it very worthwhile. They have to interrupt
regular production, time to the up, modify and then shut
down. It interrupts them. On the other hand, if you're
talking 100,000 vehicles that use maybe a 15 module
battery pack with ten cells and each battery has two
 fittings on it, all of a sudden we're talking 30 million
parts.

Well, that let's us go from dollars per fitting
to pennies per fitting. The higher volumes also allow
most importantly forward pricing. If we know the volumes
in year three are 100,000 or so, and we get past the ramp
up, startup and acceleration, we could begin to the at
this over a five, six year base. If we do that, we can
average those costs, and those very high initial first
costs can be balanced off with the the we're going to be
running for many years.

This allows us to put the thefront capital in to
reduce the the and it's the basic approach the industry
uses to bring in new models.

Now, in addition to volume considerations that
help lower costs, the durability and life-cycle costs are also important. And on a life-cycle basis, that is the original batteries, for example, plus the replacement batteries, we're competitive with lead acid batteries today. The nickel metal hydride batteries are a robust design with long cycle life and we plan to take advantage of the staff's suggestion that extended warranties be given credit. We think some of our customers will like that feature.

Most of the OEMs agree that the nickel metal hydride battery is a preferred battery and we continue to simplify the design and reduce parts at their request. When we started our joint venture in '94, the battery had 100 different part numbers in it. The were multiple pieces in some cases, but over 100 part numbers. Our latest design we've just showed the OEMs, has a total of 27 part numbers. So we are effectively bringing down the cost through design.

Now, since my last appearance before this board, the future of our joint manufacturing venture to manufacture these batteries in high volume for EVs, HEVs and fuel cell cars has become very clear. On October 10th, GM and Texaco signed an MOU for Texaco to acquire GM's share of the GM ovonic manufacturing business.

On the same day, concurrent with that signing, we
signed an agreement with Texaco to continue the the of GM.ovonic on a 50/50 basis. And with the recent announcement of the Chevron, Texaco merger Texaco has advised the joint venture will continue. We're in the the completing the final agreements.

We're actively working with several OEM customers to finalize their requirements for batteries. Now, obviously our customers, our partners Texaco and Chevron our employees are waiting for the Board's final decision on the future of the ZEV mandate to see if we go forward with full production tooling.

Well, as I said at the beginning, now is the time. No matter what this Board decides, I'm afraid everyone of us will be a little bit unhappy. We can't please everybody, but the Board can make a difference, a change that will continue a viable, personal transportation system while reducing air pollution, greenhouse gas emissions and reducing fuel consumption. We urge the Board to the the mandate for 2003 including a sufficient volume of ZEVs, and the incentives are credit for the introduction of advanced technologies to make it worthwhile for the OEMs to produce ZEVs.

There should be sufficient credits to promote increasing ZEV volume after the introductory year and an ongoing availability after introduction. Less credits for
HEVs with conventional technology, and, of course, we would like more with HEVs and advanced technology, expansion of the education information program on the benefits of EVs and HEVs for consumers as proposed by staff, and most importantly add certainty to the fact that EVs are indeed part of the solution and part of our future.

I thank you very much for the opportunity to present these comments.

CHAIRPERSON LLOYD: Thank you very much.

(Applause.)

CHAIRPERSON LLOYD: Questions from the Board?

Mr. Calhoun.

BOARD MEMBER CALHOUN: I can't let you get away, Bob, without asking one simple question. First of all, I'd like you to go back and repeat the statement that you made about Harry Pierce's comment relative to the introduction of the hybrid, that its -- at a volume of 7,000 and compare that to the advice of --

MR. STEMPEL: Harry was asked a question -- Mr. Calhoun and I worked together for awhile. He was asked a question by the the about the the And they noted it had two electric motors and controls. And obviously the press is the with some of the things they've heard here. We had California press as well as international press and they
pushed them on the cost. And Harry said, by the time we
get to 100,000 vehicles per year, we'll have a volume that
we think, when you look at the IC engine truck, with the
controls needed to the whatever the ultra low emissions
are, versus the hybrid truck, we think the the are going
to be pretty close to equal.

And for those of us in the audience, there was a
hooray.

BOARD MEMBER CALHOUN: I think that is a good
point. You also mentioned the the that at the extended
volume or high volume you can sort of take out or make
amends for the the during -- in the early years that
you've averaged that out. I think that's a very important
point also.

MR. STEMPEL: Yes, forward pricing basically
allows you to look over a five, six year period. In our
case the batteries might even look a little longer, but
you would then take that initial tooling, which the first
year is, of course, very high. But if it's going to the
you for that period of time, you'd spread that over the
Likewise, we can also offer to our material suppliers
long-term contracts.

This is extremely important where we buy things
like nickel and people would like to sell us tons, and
we're buying pounds. And if we get a long-term contract,
they can automate, they can go to additional equipment and
begin to the at us as a study supply, something they can
run eight hours a day, seven days a week and so the prices
come down very quickly.

CHAIRPERSON LLOYD: Thank you very much. Thank
you, Mr. Stempel.

Steve Kirsch. Welcome Steve and I appreciate
your leadership on trying to get the money for this issue
and your commitment to EVs.

MR. KIRSCH: Thanks, Allan. Hi. I'm Steve Kirsch. I'm the CEO of four startup companies in Silicon Valley, but only one at a time.

I've been involved in various ZEV legislation.
I've been involved in the passing of AB 71 and AB 2061.
My picture has appeared in the EV-1 ads which used to run.
And my foundation was involved in designing the theers that go on qualifying the the to allow them to drive in the carpool lane.

I am an EV-1 driver. I'm a user of the nickle metal hydride batteries. It's a gen 2 EV-1. And my wife drives a Toyota RAV4 electric, so we both have nickel metal hydride units. We are not a niche market. We use these vehicles all the the They're very practical. In fact, I have to force myself to drive my Acura NSX gas vehicle about once every three months so the batteries
don't discharge.

They basically have almost fully replaced my gas vehicle. And we drive them to do our part in cleaning up the environment. And we drive them because, basically, it's cheaper not to the in the the place than to spend money downstream trying to clean up the the that we've done.

There's no doubt it's a difficult decision for all of you in terms of what to do about the the in front of you. And I certainly don't have all of the answers for you, but I can give you my perspective. And what I've learned is that the the must involve ZEVs. It's not a question of if, it's a question of how many and how soon we get into compliance, because I ask the the what if every single new vehicle in California were a zero emission vehicle? How many years would it take for California to come into compliance with State and federal clean air guidelines?

And I asked a number of experts this question, how many years, if we had nirvana, if the ZEV mandate were a hundred percent, how long would it take? The the is we don't know. It may be never. So the the is not whether we need ZEVs. The the is how many and how soon can we get there.

And, you know, I heard the testimony from Tom
Austin earlier when he said that these new cleaner cars will do, but I didn't see how we could get into compliance that way, because we've had 30 years of regulation, and we've had ten years of these cleaner cars and we're still far away. And I wonder how many people in this room would volunteer to stand in a closed garage with one of these nice clean air vehicles and breathe? I'm not sure we'd find too many volunteers for -- Do you work for a car manufacturer? So as CEO from a financial perspective I can tell you that without serious investment, this program can't succeed. These vehicles are expensive, because they are not made in volume. And we have a chicken and egg problem, which basically you have to break because there is no incentive on the part of the car makers to break that for you.

Bob Stempel testified that the the in volume of these ZEVs will be comparable to gas cars. And as an example of that, we have the Selectria, which is a hand-made conversion selling for about $20,000, a little bit more than $20,000 in low volume hand-made today. So what would happen if we had our major manufacturers manufacture this many in high volume? You think that they should be able to do it for a lot less than this company is the it for.
We have poor marketing. In fact, a senior GM official who is in charge of the EV-1 program admitted that to me. But the EV-1 drivers love them, but the they can't get them. And I don't know -- I don't think there's anybody in this room who can tell me where I can get a ZEV today, because people come to me all the the and say where can I get one? And I have to say, I don't know. There is no supply. There are no ZEVs on the car lots waiting to be taken.

In fact, GM called me and said they had two reserve -- they had two vehicles, two EV-1s reserved for high-profile individuals set aside and did I know anyone who wanted them? So I contacted about 50 people, 20 percent of those people wanted them, only two were allowed to get them.

Furthermore, we have these monetary and noneconomic incentives with AB 2061 and AB 71, but we have no marketing of that fact. There are no marketing brochures. There is no ad that I have ever seen that talks about any of these incentives. And in order for the incentives to work, people have to know about them.

There's been absolutely no promotion, whatsoever, of these incentives that we put into place. And if we actually assess the the environmental impact of the the vehicles and applied that environmental the to subsidizing
these pollution friendly vehicles, we'd have more than
enough economic incentive to do that. But California
happens to be a free lunch State, where we have subsidized
electrical rates. And if you buy a car in California,
you're allowed to the for free, no economic cost for that,
whether you run it one day or whether you run it the the
year.

I think that ZEVs -- you look at hybrids, the
hybrids are not clean enough. You look at the greenhouse
gas emissions, they are not substantially reduced from
standard gas cars. They're not the solution. And if we
look at the current electrical, the government mandated
temporary electrical crisis in California, I think that's
a poor way to make a long-term decision, which is what
we're making here today.

In fact, the CEO of PG&E actually called me up
and asked me whether he could buy power from me because
what I can do is I can store power at night. His hydro
plants run 24 hours a day. I can store his power that he
generates at night and I can return 80 percent of that
power to him in the the when he needs it.

So I act as a big battery for him. In effect, if
ten percent of us all had EVs, we wouldn't have the the
crisis today. As far as the arguments about the
theeconomic return on investment in the short-term, I
think that misses the because you can't get to where we want to go under some sort of alternate path. So I urge you not to settle for half a business plan to ensure that ZEVs are part of the mix and all of us will benefit equally from clean air, regardless of our economic status.

Thank you.

CHAIRPERSON LLOYD: Thank you very much. You point out a good point. We need to ramp up our education there on the incentives. I think we're doing that.

Thank you very much.

Question from the Board?

We'll take two minutes while we change court reporters.

(Thereupon a short recess was taken.)
CHAIRMAN LLOYD: I'd like to ask my colleagues to take their seats.

I'd like to continue with Paul Lancaster.

Could people take their seats, please.

I'd like to restart with Paul Lancaster from Ballard Power Systems.

MR. LANCASTER: Good afternoon. My name is Paul Lancaster, vice president finance, of Ballard Power Systems, the company that's been recognized as the world leader in developing proton exchange membrane fuel cell technologies.

The world is watching California today. Will California continue to lead in the development of solutions to the serious air quality issues that concern all of us?

Hundreds of millions of dollars of investment capital and the people and facilities to put it to work is waiting to see how you decide to move forward with the zero emission vehicle regulations that were enacted so long ago.

The stakes today are high, not just the health of the citizens of California, but the fundamental principle that the ZEV regulations would result in the mass market commercialization of practical zero emission vehicles to such an extent that automobile air pollution is eliminated, and the regulations themselves become historical curiosities to our children.

From Ballard's perspective, the ZEV regulations
have been an overwhelming success.

As a catalyst to zero emission technology development, ten years ago fuel cells would, at best, have been associated with the space program.

Today, as a direct result of ZEV regulations, every major automobile manufacture is researching how fuel cells can replace the internal combustion engine across their product lines.

Even Sacramento, the California Fuel Cell Partnership, has its facility where eight major auto makers are cooperating with fuel providers, government agencies and fuel cell technology developers like Ballard, to identify and implement the solutions that will lead to the successful commercial introduction of fuel cell vehicles.

Huge progress has been made, but the speed at which successful commercialization of fuel cell vehicles will take place is dependent upon two commercial realities.

The first is that while dramatic steps forward are being made, fuel cells are a technology revolution, and naturally the automobile industry, as do we at Ballard, want to ensure a successful market introduction.

For this reason, Ballard generally supports the direction of the Air Resources Board's staff recommendations making it easier to meet the ZEV mandates in the early years by allowing more technology alternatives.
However, we believe that between 2006 and 2008 fuel cell vehicles will have sufficiently proven and accepted that the automobile industry will have in hand a technology that will allow them to meet the ZEV requirements without significant credit multipliers.

Therefore, a greater number of zero emission vehicles could be on the road than would result through the staff proposals.

The second commercial reality is that investment in zero emission technologies, and therefore the speed of progress, is directly related to the extent of the pressing need of the automobile industry for zero emission solutions.

Take away the pressing need and dollars, people and resources will be reassigned to other activities.

For this reason, Ballard proposes three modifications to the staff recommendations.

First, keep the top two percent of the mandate as pure ZEV and remove the plug-in hybrids from this category. This will continue the need to develop true zero emission technologies.

Second, do not allow vehicles in the next two percent of the mandate that do not influence the development of alternative fuels infrastructures. This can be done by either excluding vehicles using gasoline or diesel fuel, or by raising the requirement to 0.5 credits from 0.45 credits.
for vehicles to be counted in this two percent.

The development of an appropriate fuel infrastructure is critical to the commercialization of fuel cell vehicles.

Third, phase out the 0.25 credit bonus for vehicles displaying advanced technology componentry between 2006 and 2008, as we believe that it is not necessary to encourage the development of such components after that date.

In addition, we believe that the definition of advanced technology componentry needs to be clarified to include only components that will lead to true zero emission vehicles.

Thank you for your consideration of Ballard's suggestions today.

With fuel cells we have never been closer to the goal of providing consumers with zero emission vehicles that meet all of their needs and expectations.

The world and the people of California are watching.

I am certain that you will find the balance between the need to protect the health of the citizens of California, the practical requirements to commercialize zero emission vehicles, and the impact that the ZEV regulations have to speed up the commercialization of practical zero
emission technologies like fuel cells.

Thank you.

CHAIRMAN LLOYD: Thank you very much.

Questions?

Yes, Professor Friedman.

BOARD MEMBER C.H. FRIEDMAN: Could I ask the staff to address the suggestions, the affirmative recommendations?

MR. KENNY: Let me start.

With regard to the first suggestion about removing the plug-in hybrids from the top two percent, I think we did have a discussion about that earlier, so I'm going to move on.

With regard to the next two percent and the idea that we should only basically credit vehicles that contribute to the infrastructure, what that would do is essentially take out some of the hybrids.

What we are trying to do with the proposal that we made is essentially provide for a diversity of vehicle technologies that would provide for the maximum number of benefits.

So what we think the benefit of what our proposal is that it doesn't bank simply on a single technology, despite its great promise, but in fact it relies upon a whole host of technologies, and we think that is probably a better course to choose.
With regard to the last one, with regard to phasing out the advanced technology componentry multiplier, I'm going to turn to my right and ask Mr. Cackette to answer that.

MR. CACKETTE: I guess first I can tell you that the reason that we have it in there is because vehicles that have gold standard-like componentry in them that emit more like silver standard vehicles, we thought should get some additional encouragement, because it would benefit a fuel cell vehicle, it would benefit a battery electric vehicle, it would benefit any kind of pure ZEV vehicle that we know about now.

And while it may make sense that once that everyone, or not everyone, but a number of people have large numbers of these HEVs driving on the road, you might say, well, what do we need the extra credit for. But I don't think I can envision that there won't be other technologies with other good componentry that may ultimately benefit another ZEV technology down the road.

So I think at least for now it makes sense to leave it in there, and it does encourage, you know, major piece of this proposal that we've come with up since September is to encourage the near zero emission technologies that have a lot of these other good features, like lower petroleum use, lower CO2 emissions and things
like that, and I'm kind of afraid that along the lines of what Mr. Stempel said is that we want to keep that clear for a long enough period of time so that people continue to invest, and they don't see that technology or that benefit incentive we offer going away in the near-term future, because that will, I think, have a cooling effect on investment.

CHAIRMAN LLOYD: Thank you.

Supervisor Roberts.

BOARD MEMBER ROBERTS: Could I follow up on that. If we were to keep those credits, but increase the number of units required in the out years, would that have a similar effect as what's being sought here?

MR. CACKETTE: Can I hold on for one second, because one of my -- Chuck's whispering like I'm missing something here.

MR. SHULOCK: I apologize for creating a diversion here.

MR. CACKETTE: I'm going to ask Chuck to -- I think I may have missed part of what the witness said, and so if there's one aspect he wants, Chuck will elaborate.

MR. SHULOCK: I understood that there was one more component to your recommendation was to clarify exactly what it means to meet that 0.25.

MR. LANCASTER: That's correct.
MR. SHULOCK: And we're aware of that issue. That's something that we believe for our own reasons needs to be done, and so I think we would be planning to further develop that.

MR. CACKETTE: I think that doesn't address the issue, if I understood your comment correctly, was that Supervisor Roberts is asking about, is phasing down the credit per vehicle and keeping the standard or requirement the same means that there would have to be essentially more vehicles in that category.

MR. LANCASTER: That's right.

MR. CACKETTE: And your question --

BOARD MEMBER ROBERTS: What if we, in the out years, were to increase the number, but kept the credit situation, wouldn't we achieve, with maybe a little more flexibility, because it would be across the board in terms of the things that could benefit from it, a similar type of --

MR. CACKETTE: Yeah. I think that would, obviously, would increase the number of the HEV technologies, but I think what perhaps the testifier was getting at was that his suggestion would sort of cause the credits or incentives to -- like a gasoline HEV and a fuel cell vehicle to diverge a little bit, so there would be a growing incentive to move towards vehicles with more of the
zero capability. Isn't that --

MR. LANCASTER: That's correct.

MR. CACKETTE: So right now we kind of have a ratio between a, let's say, a Toyota Prius non-plug-in type hybrid and let's say a fuel cell vehicle, a non-hydrogen fuel cell vehicle, like a methanol reformer one, for example, and then this suggestion would with time make that methanol reformer vehicle more valuable relative to the Prius and provide an incentive to move from the Prius type technology of -- using a name for clarity only -- but towards the more advanced reformer fuel cell technology.

Is that correct?

MR. LANCASTER: Right.

MR. CACKETTE: I think that's where it's going to, more than volume, was the shift towards the emerging technologies.

MR. LANCASTER: The volume is more to phase out multipliers generally after -- between 2006 and 2008, to advance the number of vehicles.

MR. CACKETTE: Did that answer your question?

Supervisor Roberts?

BOARD MEMBER ROBERTS: Yeah. I'm just exploring something else here, I think.

Is Mr. Lancaster's testimony available to us or -- the chart would indicate it is, but I haven't seen it.
CHAIRMAN LLOYD: Mr. Lancaster, do we have a copy of your testimony?

MR. LANCASTER: We did submit a letter, which I think --

CHAIRMAN LLOYD: Which incorporates --

MR. LANCASTER: Yes.

CHAIRMAN LLOYD: Okay. I had one question too. You talk about the 2006 to 2008 time frame. And obviously I know, I guess, I expect I know the answer you're going to give, but I just want to ask you anyway, how confident are you that in fact these fuel cells, obviously you provide the fuel cell stack of the system, how confident are you that they will be commercially available in that time frame?

MR. LANCASTER: We at Ballard are actually very confident about it. That's not to say that there's not a lot of work to do. It's a lot of engineering work.

But the issues related to commercializing fuel cells and the related vehicle systems today are well understood and so far we haven't seen any absolute show stoppers. There's things that need engineering activity on, there's things that certainly the vehicle manufacturers -- and I don't want to speak for them -- have to go through their testing phase. They have a lot of work to do, a lot of investment to do. But everything is on the path to see
that.

Now, nothing in this world is absolute, but it's -- I can be as confident as I possibly can be.

CHAIRMAN LLOYD: Thank you.

MR. LANCASTER: Thank you.

CHAIRMAN LLOYD: Thank you very much.

Dan Kelly from IFC.

And maybe, Dan, in preparation, you could also -- well, I guess I'll listen to what you have to say, first of all, in terms of the time frame.

MR. KELLY: Thank you, Mr. Chairman, members of the board, for the opportunity to speak here today. It's been an experience for me. It's my first time out in the audience.

I'm Dan Kelly. I'm vice president of transportation business at International Fuel Cells. It's a division of United Technologies, which is a world leader in high-technology manufacturing company here in the US.

I'm proud to say we're also a member of the California Fuel Cell Partnership, helping to make ZEV vehicles a reality.

I want to begin by stating that International Fuel Cells is opposed to any change to the current regulation that would remove or delay the requirement for pure ZEV vehicles.
Fuel cells have been identified as a technology that may someday provide clean, efficient vehicle power we desire. We heard today it's the technology that every six years is six years away.

Representing the most experienced fuel cell company in the world, I can clearly state that the technology is not just promising. Commercially available fuel cells exist today.

The challenge is, as we've heard from many of the presenters, is the cost-effective integration of that technology into the vehicle.

The Air Resources Board leadership in this area has enabled the progress that was demonstrated last November at the opening of the Fuel Cell Partnership down the road.

But I want to caution the board that any change that would allow all ZEV requirements to be achieved through PZEV credits or non-ZEV vehicles will substantially slow the pace of fuel cell vehicle introduction.

I represent a company that's been making fuel cells for over 35 years. All the fuel cells that have been in space from Apollo through the Shuttle today come from IFC.

We also market a 200 kilowatt stationary fuel cell power plant. Of the over 200 that have been delivered, eight are operating today providing clean, efficient power
right here in California. They range from being at hospitals to jails. They are a very efficient, clean device.

Those 200 units have supplied over 3.8 million hours of operation.

The issue they face really is a cost issue, and I'll address that in second.

They're very clean. They're clean even running on a hydrocarbon fuel, which is what the early units in a vehicle might be. They're so clean that the US EPA last year awarded us one of their Climate Protection Awards, and the South Coast District has exempted our units from certain permitting requirements.

My point is that fuel cells provide a real solution today, not just a potential solution in the future, for those serious environmental problems that we've heard about and that we're all concerned about.

Fuel cell market growth is paced not just by technology, but by economics.

The performance and benefits of fuel cells have been demonstrated, but their cost is too high, and the volume is too low.

The auto market holds the key to reduced costs since it offers the substantial volume.

The auto suppliers invest in fuel cell technology
due in part to the board’s ZEV mandate. They will achieve
sufficient volume to reduce the cost, not just for mobile
fuel cell applications, but also for stationary
applications. All eyes are on CARB. If you waiver in your
commitment to pure ZEV mandate at this crucial juncture, the
supplier and auto community will follow suit.

The significant fuel cell progress demonstrated to
date is the result of the effort of the numerous suppliers
that have the hope of securing a position on the production
fuel cell vehicle.

If the pure ZEV mandate is eliminated or delayed,
the progress will significantly slow.

The auto industry efforts have far-reaching effect
and they will pay emissions dividends in multiple markets,
not just in the automobile market.

Commercial and residential markets will be
serviced much sooner by the clean air and the emissions
reductions as we pursue the automobile market.

And this is due in large extent to the leadership
that this board has shown.

In summary, fuel cells are not a possibility, they
are a reality.

With the board’s reaffirmation and committing to a
minimum of two percent pure ZEVs, the successful deployment
of a large number of viable commercial ZEVs also will become
a reality in the near term. A delay in ZEVs, even
momentarily, could severely hinder the implementation of
this technology, not only for cars, but for buses, fleet
vehicles and stationary applications as well.

Thank you.

BOARD MEMBER C.H. FRIEDMAN: Thank you, Mr. Kelly.

Any questions?

Thank you.

MR. KELLY: Thank you.

CHAIRMAN LLOYD: Mr. Brooks is next, I believe.

Alec Brooks.

MR. BROOKS: Thank you, Professor Friedman and
members of the board. My name is Alec Brooks. I'm with AC
Propulsion, Southern California.

I'm going to speak to you about the electric
vehicles and the power crisis, but in a way that you may not
have expected.

Next slide.

The old way of thinking is, and we saw this in the
newspaper last week from the Alliance, was electric vehicles
are an unnecessary burden to the overtaxed electricity grid,
and the new way of thinking is that electric vehicles or
electric drive vehicles, which I also include hybrid and
fuel cell vehicles, can be part of the solution to
California's power problems.
When you think about it, we have in this program, and the ZEV program will have lots and lots of extremely clean vehicles, battery fuel cell and hybrid, all with good power capability and very clean emissions, if they do have any emissions. And those vehicles are used about one hour a day on average and they sit doing nothing for 23 hours a day. If there was some way to harness the capabilities of those vehicles both in their energy storage and their power generating capacity, there's a significant benefit available to the power grid.

Next.

Vehicles will be in large number, and I'm not talking about in the 2005, I'm talking about 2010, 2020, but there's a huge potential power and energy potential there in all of the vehicles in the state.

And imagine that EV charge stations are really grid connection points for power delivery as well, you can take power from it or you can put power back to the grid.

Vehicles can provide all kinds of services to the grid, extra power during peak demands or you can have an uninterruptible rate for your home or business and power your home or business through the forced reduction.

There's another thing called grid regulation that is a service to the ISO, the California ISO. They paid a billion dollars for regulation last year. This is a service
that EVs could provide to the grid.

Uninterpretable power, demand charge reductions for businesses, and one idea we're looking at is active stability control for transmission grids to improve the power capacity, so we get more capital on our lines.

Next.

And some of the enabling technologies that will allow this to happen are wireless Internet so we can talk to all the cars; global positioning system so that cars, you know where the cars are; integrated vehicle-to-grid power interface, which allows the vehicle to couple power both ways in and out of the grid, and this would be for any of those vehicles, not just for battery electric; and finally e-commerce systems for large-scale microtransactions. You're going to be doing lots and lots of transactions, but each one of them will be fairly small, not too much different from the cell phone transaction system.

Next.

I'll briefly describe how each of the types of vehicles could be of service.

BOARD MEMBER C.H. FRIEDMAN:  I'm going to just remind you that the warning light is on, and at least while I'm here, we're going to try to stay with the three minutes.

MR. BROOKS:  I'll move fast.

EVs can provide peak power during the peak of the
day and charge at night.

Next.

Grid-connected hybrid vehicles could power generation while they're connected to the grid while they're not being driven. And that chart, you may not be able to see it, but it shows the NOx emissions per kilowatt hour comparing a Toyota Prius operating at a steady state low load, which is where it's at its very best, compared to a capstone turbine. You can see the Toyota Prius can produce electric power with NOx emissions only one-tenth as much as a capstone turbine.

Next.

Fuel cell vehicles provide even more interesting with the grid-connected fuel cell vehicle you have zero emission range and provide power to the grid if you have a hydrogen hookup. Now, imagine 20 years in the future, one million fuel cell vehicles all producing power to the grid. You could have ten gigawatts of capacity added to the grid with zero emissions.

Next.

So vision for the infrastructure for all of these vehicles is that vehicle-to-grid connection points are everywhere. Some cities in Canada already have this for block heaters to keep their engines warm.

We also would need a commerce system to enable
these transactions for buying, selling power at any point on
the grid and grid interconnection standards.

Next.

This is not an idea that we have come up with alone. There are other folks that are looking at it. We
know that Ford, DaimlerChrysler, Honda have some interest in this. EPRI, Electric Power Research Institute, and we
ourselves.

Next.

So our vision for 2020, 20 years hence, is that
all new passenger vehicles come with grid-power connection
as standard equipment and that because of this program
emissions from cars are no longer a problem.

Most of California's peak power needs can be met
with vehicle-based generation.

And that vehicles can provide valued ancillary
services to the grid, offsetting the cost of ownership and
value, meaning that you get paid for what your vehicle does
while it's not being driven.

And vehicles can participate in what's all the
five nines power quality that some of our high-tech
industries want for very high-quality power and
uninterruptible, and also can provide uninterruptible power
source for even your house, so any blackouts you can
instantly switch to your vehicle if your vehicle is at home
with you.

Next.

So today I would ask you to ignore any last-gasp EV bashing. I haven't heard quite as much of it today as we did last time.

Take the long view. Provide 20-year solutions for 40 years into the cleanup effort for cars. This is not another three-year program. This is a 20-year program.

And I would ask the board and staff to help look into this concept further by helping to pull together a multi-agency working group that would include the staff, the Energy Commission, the Fuel Cell Alliance, the ISO, the Public Utilities Commission, the Infrastructure Working Group and various stakeholders in the private sector.

So stay the course with the mandate.

CHAIRMAN LLOYD: Thank you very much.

MR. BROOKS: Happy to answer any questions.

CHAIRMAN LLOYD: Thank you very much.

And thank you for your leadership and AC Propulsion to helping us fulfill the vision here and to fill that out. I think on the last point, I think we will eagerly take you up on that and start to work, because I think it's a really exciting possibility there.

MR. BROOKS: Thank you very much.

CHAIRMAN LLOYD: Any questions?
Thank you very much.

Now we're going to go back to some of the people who are here from the air quality districts. And Barbara from CAPCOA, Barbara Lee, Dr. Chung Liu, and Ellen Garvey.

MS. LEE: Good afternoon, Chairman Lloyd and members of the Air Resources Board. My name is Barbara Lee, and I'm the air pollution control officer in the Northern Sonoma County Air Pollution Control District.

I want you to know that I drove here this morning from my district in the district's Honda EV Plus.

I'm also here as the president of the California Air Pollution Control Officers Association, and I'm here on their behalf to give you our strongest support in continuing a strong zero emission vehicle program mandate.

In the interest of time, I'm going to quickly summarize the four points we would like to recommend in terms of changes to the staff proposal.

We recommend that you modify the long-term ZEV requirement to increase the number of pure ZEVs beyond the staff proposal, between 2005 and 2010, by reducing the multiplier.

We also would like you to promote more diversity in available pure ZEVs, to ensure adequate production of full-function EVs by either, one, adjusting the multiplier for full-function EVs, or by capping the credit that is
available for neighborhood and city EVs.

We recommend that you make a smaller decrease in
the short-term pure ZEV targets so consumers will be able to
take advantage of the many incentive packages that are
available today.

And, finally, we are very concerned about the
credit given to plug-in hybrids in the pure ZEV category and
we recommend that those be removed.

As the staff proposal says, electric vehicles are
the gold standard of the motor vehicle world.

There is demand. There is incentive funding. We
urge the board to remain committed to a strong program for
zero emission vehicles.

Thank you.

CHAIRMAN LLOYD: Thank you very much, Barbara.

Question or comments?

Professor Friedman.

BOARD MEMBER C.H. FRIEDMAN: I just missed the
third point. Could you just repeat it, if you would.

MS. LEE: My third point was to make a smaller
decrease in the near-term pure ZEV targets. We understand
that some decrease is necessary in those target levels
because of market constraints, but we think that the
decrease in the targets that is in the staff proposal is
larger than it needs to be and that the assessment of the
vehicles, the pure ZEVs that will be available on the market is perhaps overly large.

CHAIRMAN LLOYD: Thank you very much, Barbara.

Dr. Chung Liu, Ellen Garvey.

DR. LIU: Good afternoon, Chairman Lloyd and members of the board.

My name is Chung Liu. I'm the deputy executive officer for the South Coast Air Quality Management District.

To save some of the time here, but I certainly didn't want to short sell South Coast, which represents 15 million people here, but I'll keep in my time frame.

You have my written testimony, but I want to emphasize a few points.

This morning there's a lot of discussion on the emission that can be achieved from electric vehicle directly, but I want to say that it also the size of the accelerating improvements of all gasoline-powered vehicles, for that I think the mandate that saved the purpose in the past will save a good purpose in the futures.

And I also want to thank ARB staff to incorporate quite a few our inputs in the previous board hearings, namely they put lot of emphasize on the fuel cell vehicles. They're now in the first four percent categories.

However, that flexibility provided so far by the staff could end up in a very disaster pictures here. Let me
point out that it could end up there are only two percent neighborhood EV, and two percent hybrid and six percent gasoline, SULEV. If that's really truly -- if that's allowed in the staff proposal, and if that's truly the case, that's really short of what we want to achieve. There's actually nothing there to promote technology advancement, which is originally the purpose, one of major reason for the ZEV programs.

And we support the CAPCOA general suggestions here and want to reemphasize the district's strong points.

First, these allow credit for non-plug-in hybrids against four percent full staff requirements. We know those cars can sell. They don't need to occupy the precious few percent we want to retain.

Secondly, we want to decrease, totally eliminate early introduction credit for low-speed neighborhood vehicles. We really don't want the two percent to end up two percent low-speed neighborhood EVs. That's really not what we're looking for.

And lastly we want to also strongly push that we consider increase the future ZEV requirement, the cap percentage.

With that, I'm going to end my presentation here. I'd be glad to answer any questions.

CHAIRMAN LLOYD: Thank you very much. Again,
thank you for your continued support. The district is great
to work with there.

I did have -- well, I had a question, but maybe
Mr. McKinnon has a question.

BOARD MEMBER McKINNON: For all of the kind of
regional air regulators, I'm interested in what your comment
is regarding including something like the Sparrow or the
electric motorcycles that are freeway capable.

And I'm sorry, I didn't do that while Barbara was
up.

But if, you know, if you do have a comment on that
inclusion of that -- sort of my reaction to NEV is that
there's long-range possibility and I'm interested in your
comment on that.

DR. LIU: At least the South Coast certainly
there's a role there, but if that happen to take place to
replace all the full-function ZEVs, that would be very
disastrous.

CHAIRMAN LLOYD: Chung, I did have one, just for
clarification, unfortunately Dr. Burke is not here, but I
know my colleagues had a letter from Dr. Burke basically
talking about the energy issue and maybe we should look at a
delay and that was -- I was confused because that, I thought
that was coming from the South Coast Board, and your
testimony from the board I presume makes no mention of that.
DR. LIU: Our staff presentation here is basically -- is address our long-term district policy. The letter we actually we sent it to the staff also, the letter was generated by one of our board meeting, because recent energy crisis was implication on the ZEV programs, so our staff did some study at the same time we sent a letter for clarifications.

CHAIRMAN LLOYD: I was wondering whether --

DR. LIU: We already receive quite a lot of comments back and also the staff address that question adequately.

CHAIRMAN LLOYD: I guess I'll wait until Dr. Burke gets back to see whether that was a board request or whether it was a Dr. Burke request, I guess.

DR. LIU: That was addressing a board meeting to direct staff to ask ARB and also the district staff to address that question.

CHAIRMAN LLOYD: Yes. Ms. D'Adamo.

BOARD MEMBER D'ADAMO: You're satisfied at this time and you wouldn't be seeking a delay?

DR. LIU: No, we're not seeking a delay.

BOARD MEMBER D'ADAMO: I would like for staff to comment on the witness' suggestion regarding NEVs.

MR. KENNY: With regard to NEVs, we actually were not, I guess -- I guess the general reaction to the witness'
comments on NEVs is that we would disagree. And I guess for
a fundamental fairness reason.

NEVs are allowed under the existing regulation, and we are only two years away from the launch, and the
difficulty for us is that although we do have some concerns
along the same lines as Chung's, it's still basically a
fairness issue in terms of people who have basically relied
upon the existing regulations to put together compliance plans. So we did not want to essentially pull the rug out
from any particular company right now.

What we thought was the fair way to try to respond
to this was the way that we have proposed, which is that we
do reduce the credits associated with NEVs fairly
substantially, such that by 2006 they are only worth .15 of
a credit, and that was a way that we thought we could
address the issue reasonably, fairly and not, again, pull
the rug out.

BOARD MEMBER D'ADAMO: Thank you.
CHAIRMAN LLOYD: Thank you very much.

Ellen Garvey.

Then we have Christian St. Pierre, and Cece
Martin.

MS. GARVEY: Chairman Lloyd and members of the
California Air Resources Board, good afternoon.

First, thank you for rearranging us on the witness
schedule. I was just over in the Capitol and I can attest
that it is raining sideways outside, so that little squishy
noise you heard when I walking to the podium was my shoes.

Good afternoon. My name is Ellen Garvey, and I am
the executive officer at the Bay Area Air Quality Management
District in San Francisco, and I appreciate the opportunity
to testify before you this afternoon.

I'm here today, as I was last September, to urge
you to stand firm and to continue with a strong ZEV mandate.

I was very heartened by your unanimous decision
last September to support the mandate, as well as heartened
by staff comments last October at the workshop in El Monte.

Thus, I was surprised, in fact I was very
surprised, by the staff proposal before you, in which we see
a significant backing away from what we hope is a shared
goal of pollution-free transportation.

I'm here today to urge you to act in the public
interest, to protect the public health of our citizens and
to adopt a strengthened version of the staff proposal.

There are a number of specifics that the Bay Area
advocates to strengthen the ZEV mandate, and they have been
articulated very clearly by Barbara Lee, the president of
CAPCOA, and in the interest of time I won't repeat those.

But I do want to focus my remarks on the press
that I've been reading and on some of the comments that I
have been hearing today, especially from the folks who have been offering a number of alternatives to the ZEV mandate.

I am delighted at all of the interest and discussion at improving the air quality, not only in the Bay Area, but in California, and I am very happy to look at these alternatives and see what they might be able to do to further that cleaning up of our air.

Many of the ideas that have been put forth are good ones.

We in the Bay Area are very supportive of cleaning up emissions from school buses.

We are also very supportive of cleaning up emissions and reducing emissions from gas cans.

These are good short-term complements to the ZEV program, but they cannot replace a strong ZEV program. In my opinion, the ZEV program is the linchpin for cleaning up all of California's cars and eventually our trucks.

The final point I want to make is on environmental justice. A number of speakers this morning have spoken on the relationship and the link between the ZEV mandate program and environmental justice.

I want to be very clear, the ZEV mandate is not only a program for the drivers, it's a program for the breathers.

I'm someone who personally believes that many
low-income communities are often disproportionately impacted from emissions from motor vehicles. This is certainly true in the Bay Area where many of our low income and minority communities are located near freeways, or they're located near major oil refineries. The ZEV mandate directly helps these communities. It helps in two ways. First, we are cleaning up the cars that are driving on our freeways, so that those that live near the freeways enjoy breathing cleaner air. And, secondly, it reduces the emissions from refineries, because these refineries do not have to process or distill the gasoline necessary to fuel these cars. And a word about affordability. If everyone in California is to be able to afford a clean vehicle, we need the ZEV mandate. It's very simple and it's very clear. Price is tied to volume. The more cars there are available, the more affordable they will become, and the more citizens of California and in the Bay Area will be able to afford to purchase one. The mandate before you today is reasonable. It offers a variety of options for compliance and gives credits to a wide range of vehicle types and alternatives. Californians need clean air. We don't need backsliding. We don't need procrastination. Don't put this
critical program in reverse. Don't put this critical
program in neutral. Please stay committed to your goal and
put the ZEV program back in gear.

Thank you very much.

CHAIRMAN LLOYD: Thank you very much.

(Applause.)

CHAIRMAN LLOYD: Christian St. Pierre, Cecile
Martin, Bonnie Holmes-Gen, Roland Hwang, Jason Mark.

MR. ST. PIERRE: Good afternoon. My name is
Christian St. Pierre. I'm the director of marketing at the
Avestor Corporation.

Avestor is developing and commercializing the LMP
battery for automobile and stationary application. Today I
would like to explain how we can contribute to the
commercialization of EV in large volume and how the mandate
is important for us.

The major barrier to commercialization of EVs is
the energy storage cost. Batteries are the single most
expensive components of electric vehicles.

And Avestor can bring a solution to this problem.

I would like to state that the environmental
battery is ready. We have batteries in field tests for
telecom applications since 1999 in real installation.

Last year we have integrated the battery in the
electric battery for 14 city, and a battery in a hybrid

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electric vehicle on the inside. These two integration shows the functionality of the LMP for automotive application.

We will start commercial production in 2002 for teleom application and in 2004 for automobile application.

On this table you can see how our EV production schedule in 2002 and 2003 we have a small number of units per year produced in our power plant and then from 2004 we start into a large volume to produce in large volume.

One of the main challenge we have ahead of us is to reduce the price. We are developing this technology for selected application, telecommunication, electric utilities and automotive.

The telecommunication and electric utility market are existing market, and they can pay a premium price for the battery.

The automotive market is very small, but it can generate, it has a huge potential.

All of the battery that we use for these different application are very similar. They are -- by combining them we can increase the volume and reduce the cost of the battery.

When it comes to manufacturing electric vehicles, we face a manufacturing cost barrier. The cost is very high, especially the batteries, because of the low volume, and the low volume -- the volume does not increase because
of the high cost.

In order to break the price barrier, Avestor is proposing a leasing program for its battery. Basically starting in 2003, we want to offer this leasing program, and as we move forward and the volume of production increase, the leasing premium will go down.

As you can see, in 2005 we will ask for premium of $2,000 plus $110 per month, and by 2010 and earlier, if the volume goes high fast enough, we will be at the leasing terms of $100 per month. All of these data are for 18 kilowatt hour pack for a 36-month period.

The advantage of such a program is that it reduces the risk to the car manufacturer and to the end user. We will support our batteries.

And also it lowers the up-front cost of the battery, making EVs more affordable.

Breaking the volume barrier --

BOARD MEMBER C.H. FRIEDMAN: Your time is expired.

Could you conclude?

MR. ST. PIERRE: Yes.

What we need from CARB basically is a guaranteed volume.

According to the proposed requirements, at the beginning of the mandates the volume of electric -- of ZEV EV required would be -- a pure ZEV would be about 5,000 unit
per year. This is too low to sustain a good battery business.

We would recommended that this number be at least double.

That could be achieved by maintaining the pure ZEV requirement at four percent.

And also we would like to recommend that the ramp-up of the requirement of a pure ZEV EV be done faster.

The combined effect of these two action, lowering the price and increasing the volume, would be a faster commercialization of electric vehicle.

So in conclusion, I would like to say that the LMP is ready, it's going to be commercialized in 2004 for electric vehicle.

Avestor will reduce the price by offering a leasing program for its battery.

And the California ZEV EV program regulation are very important to ensure a minimum volume and also we strongly recommend that the EV volume be maximized in the regulations.

BOARD MEMBER C.H. FRIEDMAN: Thank you, Mr. St. Pierre.

Any questions from the board?

Thank you.

Cecile Martin.
MS. MARTIN: Good afternoon. My name is Cecile Martin, and I'm representing the California Electric Transportation Coalition.

In the interest of time, I'll just say that my opening comments really echo the comments that you've heard several times is that we were very encouraged by the board's vote, and we were a little surprised at the staff report.

I could talk more about that. I think you've heard many of the arguments that I would probably make, so I want to kind of cut to the chase and say that we think that the numbers in the staff proposal fall short of creating a sustainable ZEV program.

You've heard some of the reasons why. It goes to volume. It goes to reducing the costs and making vehicles available to a wider market.

We also -- we would urge the board to consider including the full range of passenger vehicles as a baseline for ZEV production. That is, to consider as this program moves forward to consider including the light-duty 2 trucks and the SUVs. I think they're on the same similar chassis, as part of the whole population of vehicles, because, as we see, those are the vehicles that are growing in volume sales as new vehicles.

And we support many of the ideas in the staff report that the staff came up with. We thought they had a
creative combination of credits. So we support these
advantages given to auto makers that place and fully support
their vehicles and the advantages given to fully functioning
EVs in the staff proposal.

We believe, though, that after the first few years
of the program, the markets will be defined such that
further advantages to one type of vehicle over another
probably won't be necessary.

Therefore we believe that a phase-out of the
multipliers, beginning in the middle of this decade, as a
tool to increase the numbers of vehicles would enhance the
program.

We also have a concern about the grid-connected
hybrid electric vehicles. And our main concern is that they
be significantly advantaged over other technologies like the
gasoline hybrids, such that the cost of compliance for
plug-in vehicles is equalized with the competition. The
additional benefits from significant electric miles should
be recognized in the final program.

I know the board's discussed that a little bit
today, whether they should be in and out of the two percent,
but wherever they end up, we think that it needs to be
recognized that they have extraordinary benefits.

So we would urge in general the board to restore
some of the original volume to the program. We believe a
combination of the inclusion of SUVs and large trucks in the baseline, in combination with a phase-out of the credit multipliers, will come close to the volume and ramp-up we need for a successful program.

And I think you all have copies of my written testimony.

BOARD MEMBER C.H. FRIEDMAN: Thank you, Ms. Martin.

As I understand the staff's explanation of the reduction in the volume, it mostly had to do with the concern that there might be unplaced in-service vehicles. And the idea was to start with the success, rather than a possible marketing failure.

Do you or any of your colleagues who jointly signed this letter that we've just received, are you prepared to make any kind of commitment or statement of willingness to participate in bona fide marketing efforts to make sure that this time around there's no question that they could be placed or that everybody did the best they could to sell the vehicles or lease them, whatever the case may be?

MS. MARTIN: I can speak for the California Electric Transportation Coalition, and that is our goal to assist in marketing and to do public education and to help develop incentives.
BOARD MEMBER C.H. FRIEDMAN: You are going to communities, aren't you, government agencies, trying to --

MS. MARTIN: We have been in the past. I would say that our work has slowed dramatically in that vein in the past year, because it's been very difficult to tell people about a technology that they can't have. It's been a little discouraging. But we're certainly willing to continue that work.

I should say, too, that I think we have some agreement with staff about those initial couple of years. Yes, let's get this off the ground, but it's the middle years of the decade that really need to take off, because what we end up with this program is, you know, after 15 years or so of a program is the requirement that's less than the first year of the existing regulation, and I don't think that's going to build the kind of program that we want.

BOARD MEMBER C.H. FRIEDMAN: Mr. Cackette, are you in a position to refresh my understanding, if I ever had one, as to why we are not including in the baseline the SUV passenger vehicles? And I realize they weren't around, I guess, in 1990, at least not in any significant quantity.

MR. CACKETTE: Yes. I think going back to 1990 the reason was that they were not as significant of a -- they didn't have such a significant portion of the market share.
And in general when we looked at electric vehicles we tended to think of smaller vehicle rather than bigger ones in terms of feasibility. And so I think we just chose the car and smaller light trucks as the basis for the program and that's how we developed it.

In terms of changing it, now, of course, what it changes is it changes the baseline so it could have the effect of increasing the number of ZEVs or any of the vehicles to meet a given percentage, and then it does have some implications, which we have looked at and can get into if you want, about how it affects one manufacturer versus the other, because some of them, for example, make very few in this what we call the T-2 category, and others are almost specialists in that area. And so it shifts people around and potentially adds manufacturers to the -- but we heard your interest in this last time, and at the appropriate time, maybe now or later, we're prepared to give you a more quantitative feel of what it means.

BOARD MEMBER C.H. FRIEDMAN: Yeah. Because how do you answer the argument that's been advanced that, theoretically at least, it encourages manufactures to make more SUVs and the more they make and the higher percentage of their sales are in California, then as compared to passenger vehicles, then the lower their percentage of ZEV mandate?
MR. CACKETTE: I can only answer to I guess that's probably true. You know, a manufacturer may choose to do that. And whether this is enough of a force to cause someone to quit making smaller cars, for example, in order to reduce the number of vehicles that are in the denominator, and therefore reduce the number of ZEVs required, I don't know.

I will tell you --

BOARD MEMBER C.H. FRIEDMAN: I wouldn't want to do the deduction that they would only sell SUVs, but conceivably in marketing strategies, especially if this is terrorizing a given manufacturer, this kind of mandate, they could begin to develop a strategy to really push and market SUVs or what qualifies, and these are the big polluters.

MR. CACKETTE: The reason I answered it the way I did was because there seems to be an economic incentive right now to make all the SUVs they can possibly make, because they're highly profitable and people are buying them.

What we heard from as maybe it was a veiled threat, or not, from at least one manufacturer, was that they would consider not making some of the smaller vehicles in California or offering them in California in order to reduce the number that's in their denominator, and therefore reduce what two percent and four percent means to them.
BOARD MEMBER C.H. FRIEDMAN: Thank you.

BOARD MEMBER BURKE: Mr. Chairman, either one.

CHAIRMAN LLOYD: Yes.

BOARD MEMBER C.H. FRIEDMAN: I'm only temporary.

BOARD MEMBER BURKE: If in fact ARB had a rule similar to South Coast's 1190 series only for electric vehicles, instead of CNG vehicles, would that not dispel in its entirety the market demand for these vehicles?

I just saw him take a deep breath.

MR. CACKETTE: Well, we are -- we have been thinking about the issue, for example, we have developed a model rule that local governments could use to mandate --

BOARD MEMBER BURKE: Maybe you should tell those in the audience who don't -- who are not familiar with our 1190 series.

MR. CACKETTE: Yeah. Well, you're probably better to do that if you like, but I'd be glad to.

BOARD MEMBER BURKE: In a capsule, what we did was we were looking for a way to encroach on CARB's power.

MR. CACKETTE: Wouldn't have been my answer.

BOARD MEMBER BURKE: So we found this old, and I accidentally found it, I swear, I swear on the Bible this is how it happened. I accidentally found in the statute that we have been granted forever ago the right to regulate some mobile sources that used -- was it methanol, Alan, methanol.
So what we did was we started this whole series of rules and it was divided into public and private sector. We could do it either one. We could take -- we can make all the public sector vehicles in our area use methanol or CNG and then subsequently we could consider going into private sector.

But the purpose was to make government responsible for taking a leadership role in the acquisition of new vehicles so that the technology was pushed, and it was never a question about demand. I didn't have to go out and ask Eddie Jones or Mary Franco, or whoever, if she was going to buy one, because I had the government who had to buy it.

Now, the mayor of Los Angeles almost made we move out of the city, but it created a demand, so there was never -- automobile manufacturers could not come to me and question is there a demand, because there's an automatic demand.

It would seem to me that if CARB had the authority to mandate that five percent -- two percent, one percent, whatever the number is, of the state, just the state vehicles, where there is an appropriate electric vehicle that serves that purpose, be mandated to be purchased to replace retired vehicles, the question of market share becomes mute, because we got more than enough vehicles being replaced throughout the state, where if the public never
bought a vehicle we'd still probably meet our ZEV mandate with ease.

Do we have the capability of doing that?

MR. CACKETTE: Yes. I mean we do have a fleet rule authority and in fact one of the areas that we plan on exercising that is in the area of the trap retrofits for municipal vehicles, for example, on diesels. So I'm pretty confident --

BOARD MEMBER BURKE: That's diesels.

MR. CACKETTE: I know. I'm just saying we have the authority to do that kind of rule.

BOARD MEMBER BURKE: Forget market studies and all that kind of stuff. Now you go and you say how many do you want to buy, how many do you want to sell and then we figure out what we mandate and it fits the number and all of a sudden the market share is there.

MR. CACKETTE: I think Ms. D'Adamo talked about this at the September meeting and the idea of creating a floor. We had not been thinking about it in terms of a mandated rule, but we've done these model ordinances, Supervisor DeSaulnier has passed an ordinance in Contra Costa County, I think, requiring a certain fraction of the vehicles in their county fleet to be ZEVs, and, you know, a lot of cities supported this. And so it's something we can look at.
BOARD MEMBER BURKE: We're not talking about putting it on other people, we're talking about the people who are responsible for making the decision, keeping it in house. It's a state thing. If we mandated only state vehicles, because we don't want to hear hue and cries from the city of whatever and whatever.

But if the state vehicles that we purchase every year, because if we believe in this enough, you would assume that we would believe in it enough so that we would use it ourselves.

MR. CACKETTE: There is an Executive Order from the Governor to purchase alternative fuel and zero emission vehicles. I think there's actually a statute.

BOARD MEMBER BURKE: There's some wiggle room in there.

MR. CACKETTE: There is in terms of I think it's conditioned upon do you have the money to buy the vehicles. But in fact we have a lot of vehicles in there that are on the state bid list, you want to go over and get both the gold or the silver category vehicles from our Department of General Services, they are available to people.

And but what you're suggesting is something maybe a little more bolder than that.

BOARD MEMBER BURKE: I would think if we believe in this, we ought to put -- like Ms. D'Adamo said, put a
MR. CACKETTE: I think the requirement is actually
that it's 75 percent of the vehicles that the state buys
under the energy policy and it's EPAC it's called, act,
federal law, have to be alternative fuel or low emission
vehicles and some fraction of those under state law have to
be ZEV vehicles.

So maybe we can get back to you with a better
quantification than I was able to offer as to how much is
happening now.

But the point is well taken that the leadership
needs to be demonstrated.

CHAIRMAN LLOYD: I know you've been working with
Caltrans, Tom, also on this as a part of this issue, I
guess.

MR. CACKETTE: Yeah. A number of the agencies,
virtually everybody, and all the state vehicles in Cal EPA
are ZEVs --

BOARD MEMBER BURKE: But you don't have work with
all the agencies. If you mandate it, they got to buy it.

That's what we did in Southern California.

CHAIRMAN LLOYD: Ms. D'Adamo.

BOARD MEMBER D'ADAMO: I think that Dr. Burke
raises a valid point, and I do recall raising this issue at
the September hearing that everyone needs to be accountable here, not just the auto makers, but the groups that have come and asked us to hold firm, the environmental groups and others in terms of outreach programs, and I do remember mentioning the issue of government participation as well.

I wasn't aware of this rule, and I think that this would be something worth pursuing, perhaps not today.

I have a couple of questions about the executive order, how long has it been in place, and how does it work as a practical matter, how many electric vehicles has the state purchased, since the enactment of the Executive Order. I don't know have if you have those figures before you.

MR. CACKETTE: The Executive Order has been around quite a while, because it was in response to an energy policy act that was passed federally, I think maybe in the mid '80s or so, if I recall correctly.

And I don't recall when the law that sort of encouraged or required the state to buy a certain percentage of that number as EVs, or I think what they call ILEVs, which would be CNG vehicles, passed.

But the Department of General Services has been very aggressive at doing that, and I know we have close to a hundred EVs in the state fleet right now in state service.

And how many other ones I know -- I'm not quite sure.
Surprisingly, the state doesn't buy that many cars a year. You think it would be thousands, but in fact it's typically something like six or seven hundred is all they buy.

So some fraction of that, albeit I guess right now fairly small.

Of course in the last year we haven't been able to buy anything. They're on the state bid list, you can -- the state can buy them, a county government buys off the state bid list, EVs are there and all these vehicles, but unfortunately there's no vehicles to buy, so it hasn't expanded in the last year.

BOARD MEMBER D'ADAMO: Hundred doesn't seem terribly high, so without inviting this issue to come back before us in terms of biennial reviews, which is something I would not support, I'm just wondering if this limited issue could come back before the board for further consideration.

MR. CACKETTE: Certainly. It sounds like we would owe you a report on more specifics than I was able to give off the top of my head.

BOARD MEMBER BURKE: I'd be glad to have my staff forward to all the board members what we did, two-pager on what we did in South Coast, and how it's working so far, blah blah blah like that, so you get an idea of what we're doing.
CHAIRMAN LLOYD: As you recollect, Dr. Burke, when we were down there on the transit bus rule, that issue came up, do you have the authority to set your own rules, and we said yes.

Professor Friedman.

BOARD MEMBER C.H. FRIEDMAN: I just want to make sure I understand the basis on which the three-year to three-year ladder, increasing ladder of volume was set. I got the impression it was set in dialogue with the auto manufacturers at the level, and this is about a 75 percent reduction from the existing already reduced mandate of 1996, or '8, that it was set as what was best guesstimate realistic placement to put in service, so that it was not designed to fail, but had every chance of being a sellout.

In calculating that, were you just going on what you were worried about manufacturing costs and so forth, or did you actually take a look at what the potential for the state and other governmental agency fleets might be, whether mandated or based on moral persuasion or whatever, as sort of a baseline? I'm just curious how that was arrived at.

MR. CACKETTE: Yes. We looked at a couple of different considerations.

Some of the information we got was just because we have some understanding of how cars are designed and
therefore what kind of lead times before numbers could go up. That's where the three-year window came from for each step.

The other one was, as Mr. Kenny said, we wanted to make sure we had a program that succeeded. We did have the confidential business plans from all the manufacturers required under the MOAs and we used those to sort of look at what realistically looked like a soft start in the marketplace would be.

And then the third factor was the fact that under the MOAs we had hoped to go from 2,000 vehicles to a nice smooth ramp-up towards 2003, and it ramped down to zero.

So we found ourselves starting from zero from not being able to do any marketing, the manufacturers not doing any marketing, because there's no product available.

So here we're going to have to start up all over again, almost put us back to 1998 time frame.

So with those, we looked -- shared the collective wisdom of our staffs and discussions we had with other people, and we had a range of numbers that fell in between maybe half and the ultimate quarter in terms of battery electric vehicles. And I think we decided that if it was to be some conservatism added here, it was conservatism to assure success rather than -- and that was more important than saying, for example, well, if we got 5,000 vehicles,
wouldn't it be better to get 8,000, because 5,000 or 8,000
doesn't really make a lot of difference in the end result.
What makes a difference is having a sustainable market that
can grow into the tens and hundreds of thousands.

So we took more of a conservative approach and
decided to go with cutting it in half and then allowing the
flexibility to use the ATP ZEVs for half of that again.

So that was the logic that we used.

BOARD MEMBER C.H. FRIEDMAN: If I understand the
first three years, I understand the rationale, but in light
of these comments, Dr. Burke and Ms. D'Adamo, it seems to me
that we ought to be able fairly soon to get a reckoning, a
handle on just what the market may be for placement.

MR. CACKETTE: For fleets.

BOARD MEMBER C.H. FRIEDMAN: Either under the
exercising authority to mandate or fleet purchases or
acquisitions and the help of people like the last witness
who, and others, the coalition, who have been going around
to the local communities and trying and getting commitments
to purchase, and we might be able to get a feel for it.

I'm wondering whether in the intermediate years
then there isn't an opportunity, except for the problem of
planning, advance planning, to ratchet up more quickly in
volume.

MR. CACKETTE: Yeah.
BOARD MEMBER C.H. FRIEDMAN: If we learn, for example, and we can tell the manufacturers we believe you can sell more than those in the second three-year period, and we learn that soon enough, what would be the opportunity to raise that as a goal?

MR. CACKETTE: Let me complete the answer I guess that I didn't answer on the first question, which was sort of this floor level of vehicles that perhaps government fleets, not just state, but state, municipal, local government fleets could do.

We did try to do an assessment of that -- and they're whispering the numbers -- I think I got them right, we thought that a fairly successful effort might get you in the 3,000 or so a year level.

Now, again, it probably isn't going to jump from zero to 3,000 or the level it is now, but you could get to that kind of a floor.

BOARD MEMBER BURKE: I don't understand the basis of that. Our role, we mandated that all new car -- that's got to be some fractional portion --

MR. CACKETTE: 25 percent.

BOARD MEMBER BURKE: What we did was we mandated a hundred percent of new vehicle purchases.

Now, the problem is going to be with electric. Obviously that the use of the vehicle may not fit electric
propulsion systems. So 25 percent may in fact be -- but, you know, for me to imagine in a two-year period that only 3,000 vehicles in the State of California are purchased by municipalities, 3,000, if it was 25 percent, is 12,000 vehicles. Now, I think there's more than that.

MR. CACKETTE: That's in the light-duty category.

BOARD MEMBER C.H. FRIEDMAN: I don't think this is -- for my purposes of my question, I don't think we need to speculate. I just wanted to lay out a possible line of approach here to get these things placed and in greater numbers, and I'm hoping this program will allow for that.

MR. CACKETTE: I think the reason we went and did the exercise was because of the discussion the board had suggesting that this fair share needs to happen, fair share participation. And we felt that, well, if 3,000 or so a year was a fair number, not under the mandate scenario, but under more voluntary encouragement approach, that the kind of numbers we were talking about, which is somewhere between five and ten thousand full-function EVs during this decade per year, that that was kind of a fair share. We wanted that number certainly to be bigger than just what the fleets could do, because we don't want it to be a fleet-only program.

And on the other hand it sounded like that kind of number is a reasonable percentage of the total, which would
be the state doing its share, especially for these certain kinds of vehicles that would do well in the fleet market.

CHAIRMAN LLOYD: I think we should move on.

Clearly that's an issue we need to come back to staff.

Ms. D'Adamo.

BOARD MEMBER D'ADAMO: I apologize. I just have one other question.

Obviously, local municipalities, city councils, et cetera, would be able to impose a rule of this nature on themselves, but what about other air districts? Does South Coast have sort of a special status that they can do this, or do other air districts have the ability to do so?

MS. WALSH: There are other air districts who have the authority to do this under the California Clean Air Act and that would be districts that are serious or severe non-attainment areas for state ambient air quality standards, and that would include a number of the larger districts, San Joaquin and the like.

BOARD MEMBER D'ADAMO: Thank you.

CHAIRMAN LLOYD: Mr. McKinnon.

BOARD MEMBER McKINNON: Yeah. I'll let it go in a second, but I think why this is a really important question is there has to be some cars available to the public. This isn't going to work if the public doesn't at some point start buying zero emission vehicles, so if government

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entities and, say, utilities and other businesses that can
use them buy up all the electric cars and there are none
available.

So, you know, we should have some good guess at
what that baseline number, foundation number, is when we're
looking at the other numbers.

And I assume you worked on that, but assume is a
dangerous word.

MR. CACKETTE: That's to our best guess that's the
number is something around 3,000 or so. And so that gives
you an idea.

And all our mandated numbers per year are higher
than that, so that there is a public or non-government piece
here and of course the numbers, remember, those are
full-function EVs, remember, these numbers go up if there's
a mix of city cars, and so we expect there will be a mix of
city cars.

BOARD MEMBER C.H. FRIEDMAN: But the first year I
think is 4750?

MR. CACKETTE: That's full-function EVs only.

BOARD MEMBER C.H. FRIEDMAN: And 3,000 of those
could be potentially --

MR. CACKETTE: Potentially, but I think --

BOARD MEMBER C.H. FRIEDMAN: That's not leaving a
lot for the public.
MR. CACKETTE: I think we don't expect that local
government, unless we had a mandate across the board, would
jump immediately to 3,000 either. So they're going to
have -- they're just as tough a sell as the public is and
the learning curve --

BOARD MEMBER BURKE: There's tougher.

MR. CACKETTE: Maybe tougher, right.

BOARD MEMBER BURKE: One thing, Mr. McKinnon.

Also if the government has some really
specific-interest use in vehicles, like I've heard some
complaints by other board members about the little Ford
things that looks like a golf cart. I forget what you call
it.

CHAIRMAN LLOYD: Think.

BOARD MEMBER BURKE: They say this, but let me
tell you, that would make a perfect meter maid car. It
would make a perfect meter maid car.

CHAIRMAN LLOYD: Or a meter man.

BOARD MEMBER BURKE: Or a meter man. Or a meter
person. A meter person car.

And so -- and after my dad lost his job at the
factory, Matt, he became a meter man. So he would have
loved to have one of those.

But anyway you see we can find some purposes for
some of these that we really want to test out and maybe
mandate a little portion of each one to make sure that they all get used and get some real testing on the road.

CHAIRMAN LLOYD: Before we get too excited about what we're doing, let's get through, there's a lot of witnesses to cover yet to see where we're going.

Bonnie Holmes-Gen, Roland Hwang, Jason Mark, and Janet Hathaway, Enid Joffe.

MS. HOLMES-GEN: Dr. Lloyd, board members, I'm Bonnie Holmes-Gen with the American Lung Association of California.

Pleased to be here today.

And I have a follow-up to Dr. Dailey's presentation, our lung specialist who was here today and testified on the health reasons for a strong ZEV program.

I'm going to be presenting the specific recommendations of the Lung Association and Zero Emission Vehicle Alliance, but I have a couple of comments I want to make before I do that.

First of all, I want to be clear with you again, as I testified in September, that the American Lung Association is fully committed to a successful ZEV program, and we have been conducting a lot of outreach efforts to that end.

And some of what you've been discussing just in the previous conversation is very relative to what we've
been doing.

We have been conducting outreach with local
governments and community organizations around the state in
support of zero emission vehicles, and we have identified
overwhelming support from local government and government
organizations and elected officials to preserve and
strengthen the zero emission vehicle program.

I have copies and a list of more than 60 local
governments, and government organizations in California that
have passed resolutions or sent letters to the Air Resources
Board in support of the zero emission vehicle program and
this has been over the period of about the past nine months.

Just for your information, about 47 of those
cities and counties and local government organizations are
in the Southern California region, and they include cities
such as City of Chino, City of Cudahy, City of El Segundo,
Huntington Park, Maywood, City of west Hollywood, the
Western Riverside Council of Governments, City of Redlands
and the City and County of Riverside, just to give you a
quick snapshot of those cities and counties.

Of course, that's in addition to the three local
governments that have passed ordinances, which I know you're
already familiar with, and those ordinances actually give
preference to the purchase of zero emission vehicles in
making fleet purchases for those governments.
As part of our outreach throughout the state we have also conducted meetings with statewide environmental justice and local community organizations on the zero emission vehicle issue, and many of these meetings have resulted in letters of support to your board for the ZEV regulation, and these letters have come from diverse groups such as the Latino Issues Forum, the Watts Century Latino Organization, Angelinos Unidos, and Public Allies. Three of those organizations are in Los Angeles. Latino Issues Forum is based in San Francisco.

I just want to read a couple of comments in a couple of these letters to show the strength of the support for the zero emission vehicle program.

From the Latino Issues Forum, one comment, as a policy and advocacy group for the Latino population in California, we see the implementation of the ZEV program as crucial to beginning a reversal of environmental policies that have thus far been detrimental to the health and well-being of all Californians.

From the Watts Century Latino organization, if the future price of gasoline and other petroleum-based fuels is to be reasonable and within reach of working families, it's imperative that we develop alternative technologies to compete with gasoline powered vehicles.

And from in Angelinos Unidos, upstream emissions
from gasoline, including those from refineries and diesel trucks and from evaporating the spilled fuel are significant contributors to unhealthy air.

So just so you know, I'm not suggesting that this replaces in any way the outreach efforts of the board is doing and should be doing, and I hear from your board a commitment to continuing to do outreach and conducting new outreach efforts in communities throughout the state.

The specific recommendations I'd like to present on behalf of the American Lung Association and the Zero Emission Vehicle Alliance for strengthening the program that's proposed in the staff report are the following.

First of all, we would like to increase the number of zero emission vehicles recommended in the staff proposal and establish a much steeper ramp-up of pure ZEVs to be produced in the 2006 to 2010 time frame.

And we are urging you to establish a goal of at least 40,000 full-function zero emissions vehicles by 2010. I recognize this is a substantial step up from what you have in the staff report, and we believe you need to take a substantial step up to get the volumes up and to get the volumes necessary to spur investment in these technologies and rapid development, not just of battery, but of fuel cell technologies.

And I want you to recognize that this number is an
incredibly small number in relation to the 1.7 million vehicles that are sold in California each year. 1.7 million vehicles. Let's keep that in mind when we're looking at the numbers of zero emission vehicles that are required.

You can increase the number of ZEVs in a couple different ways.

One way is to phase out the credit multipliers allowed in the staff proposal by 2010, and there's going to be further testimony going into more specifics as to how to do that and what that would look like.

Another is to increase the percentage requirement for production of pure ZEVs, from 2006, 2010 beyond the two percent.

Second major recommendation, we, this has been discussed earlier today, we urge you to recognize the reality of the passenger vehicle marketplace in California and include all SUVs and other light trucks in the total number of vehicles from which the ZEV percentages are calculated.

There's been a lot of discussion about this. We think this certainly makes sense, and the percentage of ZEVs should be accounted against all the vehicles that are purchased as passenger cars in California.

Third, we're asking you to eliminate multiple credits for early introduction of neighborhood electric...
vehicles and to phase out all the ZEV program credits for neighborhood electric vehicles by 2005.

We don't believe these types of low-speed vehicles were intended to play a major role in the program and giving them multiple credits in especially in the early years seems really inconsistent with the goals of the ZEV program in our minds.

And, fourth, we're asking you not to allow plug-in hybrids to qualify for the two percent pure ZEV category. And there has been discussion about that. We think that incentives for plug-ins can be incorporated into the AT, advanced technology, category rather than granting them credits towards the pure ZEV category.

Those are our specific recommendations.

I'm probably over the three minutes.

CHAIRMAN LLOYD: What do you mean probably? Way over.

MS. HOLMES-GEN: Way over? I tried, I cut so much out of this.

Thank you for your consideration of our proposals. We believe they will help clean up the air on behalf of all Californians.

CHAIRMAN LLOYD: I would appreciate -- thank you, Bonnie -- but before any question, I would appreciate people following you who are from the community who have similar
recommendations, rather than repeat those or if they're
different --

MS. HOLMES-GEN: My job was to present them first
and then others will have different testimony to follow.

CHAIRMAN LLOYD: Hopefully short.

Any questions?

Thank you very much.

Roland Hwang and Jason Mark, Janet Hathaway, Enid
Joffe.

MR. HWANG: I will do my very very best to keep it
short.

CHAIRMAN LLOYD: That's all I ask.

MR. HWANG: Okay. As Bonnie said, some of us are
now going to present the more specific details about what
the environmental community is proposing in order to
strengthen and improve this program.

I'm going to present, which is one of our highest
priorities, is to get the volumes up of pure zero emission
vehicles in the 2010 time frame.

What we're going -- what this proposal is is a way
to phase out the pure ZEV range and efficiency multipliers
in order to establish a sustainable ramp to 2010.

Here's a problem we have.

The current program in black shows up by 2010 we
were going to have 40,000 full-function EVs or fuel cell
vehicles.

In red and yellow is the current staff proposal, the number of vehicles we would have.

As you can see, if the red line is -- if all the vehicles were fuel cell vehicles at 275-mile range, we would actually have about ten times less vehicles in the current program. If there are full-function EVs, the number is about six times less.

This is our major concern. The numbers are simply too small, the ramp too shallow, in order to sustain a drive towards mass commercialization of zero emission vehicle technology.

I'll skip the slides, basically describes what I just said, but again a tremendous reduction, the 2010 time frame, and very very shallow ramp.

Our proposal is a very specific targeted proposal. We would like to see the multiple credits given to pure zero emission vehicles be phased out completely by 2010.

And the phase-out we think in order to get a realistic ramp to 2010 we think that phase-out needs to begin in 2006.

This is a single change that would be required, a very simple modification of the current phase in multiplier that apply to a pure ZEV category only.

Now, the -- whoops, I went backwards. Go forward.
This is the impact of what we are proposing. In the green and blue is the impact of phasing out the multipliers. As you can see, by 2010 phasing out the range multipliers for pure ZEV would get us up to a full 25,000 vehicles.

As you can see, our proposal is suggesting that the ramp begin in 2006 in order to achieve that 25,000 by 2010.

Our conclusion is that higher numbers of pure zero emission vehicles are needed in 2006, the 2010 time frame to maintain momentum towards commercialization of ZEVs, especially fuel cells.

We are very concerned if our ramp, a significant ramp starts beyond the 2010 time frame, that will not have nearly as much impact on maintaining the drive towards commercialization as a ramp that would start in the latter part of this decade. Post-2010 is simply too far off.

Pure zero emission vehicle multiplier phase-out is a simple, effective and transparent method to increase the pure zero emission vehicle numbers.

The proposed multiplier phase-out results in a reasonable zero emission vehicle ramp that is achievable by battery electric vehicles and fuel cells in 2006 and 2010 time frame. We think the 25,000 is a very reasonable number, particularly when you factor in the fact that many
auto companies are talking about significant numbers of fuel
cells in that period.

   My colleague, Jason Mark, would, I believe is
going to speak a little bit more detail on what he believes
is a reasonable ramp for fuel cells.

   Finally, I'd like to point out that a SUV
phase-in, which we do vigorously support, should be done in
addition, not instead of, a multiplier phase-out. Including
the SUVs essentially would increase the numbers by our
calculations by about 50 percent, and therefore in 2010 if
we are just including SUVs only get our fuel cell numbers up
to about 5,500 vehicles in 2010, essentially the same number
as would be required in 2003, no ramp.

   A multiplier phase-down would increase the fuel
cell numbers to a full 25,000 in 2010.

   So we would like to see both occur, multiplier
phase-out and an SUV inclusion.

   Thank you. That's my presentation.

   I think, Alan, I think I might have even kept to
three minutes.

   CHAIRMAN LLOYD: Thank you.

   BOARD MEMBER D'ADAMO: Question.

   CHAIRMAN LLOYD: Yes, Ms. D'Adamo.

   BOARD MEMBER D'ADAMO: Could you go to either the
second slide or the fifth, the charts.
MR. HWANG: Sure. Assistance from staff here.

BOARD MEMBER D'ADAMO: I'm wondering if staff could prepare a chart that -- both of your charts, Roland, assume full-function EVs. And we know that that's not going to be the case.

I'm wondering if staff has a chart based upon what you anticipate to be the case with the various mix, and if we could see what that looks like, see what the comparison looks like, and then if we could add in the SUVs into the mix, at a time frame that staff would recommend, on the SUVs.

MR. KENNY: We can prepare that. We'll try to have it ready in the next -- in a short period of time.

BOARD MEMBER D'ADAMO: Thank you.

CHAIRMAN LLOYD: Questions from the board?

Thank you very much, Roland. Thank you for suggestions.

MR. MARK: That's right. We're divide and conquer.

My name is Jason Mark, and I'm the director of the Clean Vehicles Program at the Union of Concerned Scientists, and I'm here to clarify what I think is the impact of the staff's proposal on the development of fuel cell vehicles,
the technology that I think everyone, environmentalists, auto, oil industry alike, have heralded as the technology to replace the internal combustion engine.

I'm quite concerned that in fact the staff proposal doesn't get us on the path to zero, and that in fact does pour cold water on the development of this exciting and promising technology.

Auto companies worldwide have clearly articulated strong, I think, promise for fuel cell vehicle technology. In the last year we have heard commitments to bring early market vehicles to the roads, starting in the years 2003 and 2004.

They have also articulated, I would suggest, large potential beyond that. For example, and I'm just looking here at public statements, DaimlerChrysler is quoted as saying around 2010 fuel cell vehicles could match traditional cars in performance and cost, and that the potential market for fuel cell vehicles could be up to 25 percent of the global market by 2020.

Similarly, General Motors Global Alternative Propulsion Center in Europe has estimated that fuel cells, and I quote, share of specific markets could reach -- or to reach ten percent by 2010, ten percent in 2010. This is General Motors European Alternative Propulsion Center.

With that background, I think we have a sense for
what's possible and that's this chart here.

The upper line suggests, starting in early market commercialization between 2003 and 2005, this is market introduction, this is what the auto companies have already committed to do, in small numbers. Obviously, we're guesstimating at what potential numbers look like, but this is a path towards getting to ten percent of the California market, the ten percent in 2010 that GM has articulated for specific markets. We certainly think California could be just one of those specific markets. So ten percent of the California would be roughly hundred thousand.

What's critical, I think, in this chart is the recognition that if we're going to get to such large -- achieve this potential in the 2010 time period, we have to move fast. We actually have to have this critical, what I would suggest, critical hurdle stage volume ramp-up. We need to start making decisions in the short term.

And you can see, based on the very bottom line there, the one with the squares on it, the staff proposal doesn't get us anywhere towards that volume ramp-up.

So the gap between those two suggests that fuel cell technology investment could really falter.

What we're proposing, and that's the middle line with the triangle, under the phase-down would at least provide a floor for getting that ramp-up moving.
Again, I want to be quite clear, if we don't start the ramp-up for fuel cell vehicle technologies around the 2006 to 2007 time frame, I'm extremely concerned that the decisions that are vital to going into volume ramp-up aren't going to get made.

In other words, we have already made the decision to do market introduction.

The next key decision is two, three years down the line. That's volume ramp-up. If there isn't a clear signal from this board that large numbers of fuel cell vehicles need to be on the road in California, my fear is that those decisions over volume ramp-up get delayed substantially.

Under the staff's proposal those decisions may never get made.

Finally, I want to clarify numbers for 2010. I think this may get to some of the questions that Ms. D'Adamo was asking about the impact of rolling and sport utility vehicles.

This is what ZEV sales requirements look like in the year 2010 by our estimates, looking at all the different multipliers and percentages.

On the left-hand side is the current program, or the left-hand bar is full-function electric vehicles. The right-hand bar is fuel cell vehicles. That's 40,000 in the current program.
Second set of bars is the staff proposal from December 2000, 7300 full-function EVs, less than 4,000 fuel cell vehicles. In other words, as my colleague mentioned, a factor of ten reduction in the requirement.

We strongly support adding SUVs to the mix, but it is not by any stretch of the imagination enough to get to the types of fuel cell vehicle numbers that we think are both needed and send a strong signal to keep fuel cell investment going.

The numbers, if you estimate, as we have, that SUVs add about 50 percent to the market, these are the T2 category, recognizing that the T1, the smaller SUVs, are already in the million or so vehicles part of the requirement, you'll only get 5600 fuel cell vehicles in 2010, far from enough.

Again, we recommend critical to add the SUVs, but you need to do more in order to get the sales requirements up.

Although I'll skip my last chart in the interest of time, I just want to say that I think this board holds, to some extent, the future of fuel cell technology in your hands how fast we move, and how many we get.

We urge you to get as close to the real two and a half percent or four percent in the 2010 time frame and start in 2006 to preserve a path to zero emissions.
Thanks.

CHAIRMAN LLOYD: Thank you.

From what I see you have there, Jason, the fuel cell vehicles will be about, if you assume, you're assuming in this case that all the ZEVs are fulfilled by fuel cells.

MR. MARK: Right.

CHAIRMAN LLOYD: Which obviously is not -- but what I was going to ask you, and you were saying that might be about 25,000 in 2010, one of your scenarios, the road mapping study that's being looked at under the California Fuel Cell Partnership, I think the two scenarios there are 40,000 and 100,000 in 2010.

So your numbers are well after, you're below that one scenario there, which is regarded as at least the 40,000 would presumably be not an unreasonable number, maybe 100,000 may be looked at as optimistic.

So I was trying to get a feel that you're in range, anyway, a bit lower than that.

MR. MARK: We're in that range and I guess I'm proposing just given the sort of clean and simple strategy of phasing out the credits that we're proposing, it's the simplest thing you can be doing right now at this sort of late date, the best we can do is get to 25,000, unless you do other things like increase the percentages.

This chart actually suggests, gets to the point
that you were suggesting, which is obviously not all the
vehicles put on the road will be fuel cell vehicles.

What we've done here is assumed -- looked at that
25,000 in 2010, split it up among full-function EVs. This
would be sort of the what I think would be possible in 2010.
This is the base full-function EVs that the staff recommends
and then the additional increment under our phase-down
proposal might be met through fuel cells, and you can see
that we're actually under the 20,000 mark.

We suggest that obviously a very conservative
strategy. We'd like to see much larger. We see this as a
regulatory minimum. It's the floor.

CHAIRMAN LLOYD: Thank you.

Comments, questions of the board?

Thank you very much.

Do you have copies?

MR. MARK: We're just trying to sort that out. I
have electronic copies.

CHAIRMAN LLOYD: All right, Janet. Good to see
you.

MS. HATHAWAY: It's nice to see you.

Chairman Lloyd and members of the distinguished
panel, my colleagues have already presented the most
important points, so I just want to get into a little bit
more detail on only two points.
One is the importance of having a pure ZEV category that truly is only zero emission technologies. Currently the staff proposal does not achieve that. It puts a certain kind of hybrid, the hybrids that can be plugged in and have a certain limited range into that category.

And the reason that is so problematic for us is there are many other technologies that may have similar or even superior in some amount, I can imagine, emissions consequences relative to that kind of plug-in hybrid. We don't know how those hybrids will be used. We don't know how many people will on occasion not plug in and use the gasoline, ICE engine. We don't know how they'll deteriorate over time. It is speculative to put it into a ZEV category when truly it is a gasoline plug-in hybrid.

So our concern is to really ensure that there is a category that really is set aside as the gold standard for the fuel cell, the hydrogen fuel cell, battery electric type technologies, and that isn't achieved unless we move that plug-in hybrid into the silver category.

But we understand staff's concern about giving appropriate credit, and by giving a multiplier that would help to take care of the differential in costs that is likely because plug-ins do have heavier batteries, larger batteries. We think that that could be accomplished well.

Secondly, I think that a number of people have
mentioned that we have real concerns about neighborhood
electric vehicles being in this program and especially being
able to qualify for four times credit in the early years.

We could see a real unfortunate consequence of that. These are clearly the cheapest technology to make in order to comply with the mandate. They truly would reinforce the impression -- the misimpression that many people have that electric vehicles are nothing more than golf carts, because these truly are golf carts.

And I don't know about your neighborhood, but my neighborhood, these would not be safe, because most streets that I'm on people do not only go at 30 miles per hour. I mean, it's that may be unfortunate, but it's just the case that for many applications, many localities, they will simply not suffice as an alternative to gasoline transportation.

So we're worried that not only could you flood the market with something that gives a misimpression, but it distorts the credits, because clearly that is a cheaper route than continuing with a full-function battery electric technology program, or a fuel cell technology program, which is what we really need for the state.

So we urge you to eliminate multipliers for those. We understand that staff and board members may want to give a little bit of credit just in the early years, but
multipliers clearly are a distorting influence.

And I thank you very much.

CHAIRMAN LLOYD: Thank you for your written comments and thank you for keeping it short there.

Questions from the board?

Thank you very much.

I'll take one more witness, Enid Joffe, before we need to give the court reporter a ten-minute break.

So, Enid.

And then we'll follow after the break with Bob Graham, Kevin Finney, Susan Stephenson, and Sandy Spelliscy.

MS. JOFFE: Hi. I'm Enid Joffe from Clean Fuel Connection.

As I've testified at earlier hearings, I am an owner of a business that was started to install, sell and install EVK charging infrastructure. And my company has staked its future on the future of the EV infrastructure market. We have created new jobs and we have a network of electrical contractors that have put in the charging, about 70 or 80 percent of the charging infrastructure in California, including that for many of the people here in the room.

And so as a small business we don't have the luxury of waiting a large number of years for the market to
ramp-up. We need to know that there is certainty, that there's predictability in terms of the numbers and that there's growth, so that we can implement our business plan. Therefore, I was kind of disappointed when I read the staff report to see that how drastic the reduction in the number of vehicles was.

And rather than reiterate a lot of the points that I wanted to make were made earlier, so I'll just simply summarize the areas where I really support some of the recommendations that have been articulated very well by previous speakers.

First of all, I think we need a faster ramp-up, as I call it, an increase in the slope of the curve, that we get more cars into the market and sooner, and several approaches have been recommended in great detail, and I think some of them are very very good.

I also support the recommendation that the plug-in hybrid electrics be excluded from the gold standard. I think it tarnishes the gold standard category to include them there, and I really think that that should be kept for pure ZEVs.

I would also have some concerns about the mix of vehicles that is being proposed or could be implemented under the program, and I would ask that the board ensure that if there be a mix of full-size, full-function EVs and...
smaller EVs, and part of that concern is that the auto
makers claim that they have had such difficulty in finding
markets for a few hundred full-function EVs, which the
drivers, as we know, absolutely love, why do we think that
we're going to be able to find markets for 10,000 city EVs,
for 30,000 neighborhood electric vehicles?

So I think we have to look at reality and look at
what the mix needs to be, and make sure that there is a mix,
and we do test those other new markets.

I also want to address the issue of
infrastructure, which is certainly the one I'm most familiar
with.

And I'm very concerned about the fact that we have
about a thousand public chargers out in California now.
Many of those chargers are coming out of warranty. And if
we don't see a significant increase in the number of
vehicles in the near future, there's absolutely no incentive
for the businesses and city governments that invested in
that infrastructure to keep it functioning, and I'm very
concerned about seeing rusting chargers sitting out there
and that become a testimony to our folly instead of a
testimony to our vision.

Then in closing I just wanted to mention that I do
have a lot of experience working with local governments, and
I've worked with many of the governments helping them
implement EV programs and install their infrastructure.

There's tremendous support among local governments for electric vehicles and there are a lot of good applications for them, both full-size and the smaller vehicles.

There are two main issues that need to be addressed. The availability of cars, because many city governments have not been able to get cars when they were ready to purchase them, and the cost.

And I think if you address those two issues of helping them buy down the cost of the vehicles, you will find local governments willing to be very very good partners with you in implementing the ZEV program.

CHAIRMAN LLOYD: Thank you.

Any questions?

As I indicated, we're going to take a ten-minute break until, well, say 5:20.

For the audience, just to let you know, we've got about 30 more witnesses to cover. We do intend to finish the hearing this evening. So just to give a feeling of what's going on there.

(Thereupon a short recess was taken.)

CHAIRMAN LLOYD: I'd like to start, please. If people can take their seats again.

We've got Bob Graham from EPRI.
MR. GRAHAM: Mr. Chairman, thank you. Members of the board. I appreciate being able to start the evening session out, specially since I get to start it and not complete it, so it's my pleasure to do that.

EPRI, as you know, has been actively involved in the electric vehicle business for a very long time, and we and our utility funding partners have spent a great deal of money on batteries, on electric vehicle infrastructure, and we have not moved away from that commitment.

However, over the last two years, under my leadership, we have begun to look aggressively at plug-in hybrid vehicles, and our plug-in hybrid vehicle program ranges from electric buses, hydroelectric buses that we're doing in New York City, to shuttle vehicles, to step vans to automobiles.

And what I wanted to talk to you about today is our plug-in hybrid program, just briefly to alert you to the fact that we're very strongly supportive of the staff's putting plug-in hybrid vehicles into the mandate.

I think all of you know what a plug-in hybrid vehicle is, so I will move on beyond that.

We think it's an idea worth pursuing and the reason it's worth pursuing is, I don't need to read all of these issues, but primarily for two reasons.

One, we think there's a dramatic increase in
volume once the customers learn the benefits of a hybrid electric vehicle. Once they learn those benefits, they will be pleased to move forward to acquire them.

More importantly, because they're going to be charging at night, they will also move to reduce petroleum consumption.

Another interesting linkage that we see is that there's been a lot of discussion about fuel cells today. We believe that the plug-in hybrid electric vehicle is a logical first step to fuel cells. If you have a very strong plug-in hybrid, you can replace the internal combustion engine on a plug-in hybrid with a fuel cell. So we think there's a logical move in that direction.

We also recognize there's significant risks that need to be addressed as we move forward, and I think these risks can be addressed from the fact that next generation batteries that we have spent a lot of money on, as have you, can -- the plug-in hybrid vehicles are a perfect application for the next generation batteries, as you've heard a little bit today. We think there will be a strong market pull when we think about all of the millions of people that drive less than 20 miles a day. We believe those individuals will be -- are strong candidates for plug-in hybrid vehicles.

We also believe there's a very strong synergy. All the vehicles we heard talked about today that were
developed, the hybrid vehicles, the electric vehicles, the plug-in hybrid electric vehicles, we think there's a strong synergy between their technologies, and we can use those technologies to reduce the cost.

And ultimately we think that the manufacturers will come along with us to make a decision to participate in plug-in hybrid vehicle development, even though, as you've heard today, they have not stepped up to the plate as yet.

So what are we doing about it at EPRI besides spending our money, traveling around the country promoting plug-in hybrid electric vehicles and urging people to participate?

We are creating an alliance for plug-in hybrid electric vehicles, an alliance very similar to the Infrastructure Working Council that was created at EPRI a number of years ago that many of you have participated in.

We also are looking to the members of the consortia that we started last year to develop an automotive component, which was our hybrid electric vehicle working group.

We're urging that group to move on into phase 2, and it's a difficult project in that you need to do more than just say that you're going to develop a vehicle. You need to truly look at what the market pull is going to be, need to figure out where that market is going to come from.
so you can persuade somebody there truly is a market. You need to analyze carefully what the configuration design should be and you need to understand very carefully what the production costs are.

Costs include the cost of the battery, the cost of the integration, the cost of the subsystems, and including one small component that's in the current rules before you that you're deliberating is a 15-year warranty on the battery for plug-in hybrid electric vehicles. We would like to see that considered.

And finally there needs to be a strong government commitment to support plug-in hybrid electric vehicles and we're trying to make that happen.

EPRI has a very long-time strategic focus, and part of that focus looks at economic productivity and prosperity, resolving the energy carbon conflict, worried about global sustainability, and we strongly urge you that plug-in hybrid vehicles should be a component when you're thinking about your future mandate.

So we thank you for the opportunity.

CHAIRMAN LLOYD: Thank you very much, Bob.

Questions, comments?

Thank you very much.

BOARD MEMBER PATRICK: Mr. Chairman, if I can just make a comment.
I really appreciate your very succinct testimony, and several of the people who gave succinct testimony before. I really appreciate it when people come up and they tell me exactly what they want and why, because it helps me to know in my mind the direction that this board needs to go in.

So I just wanted to say thank you.

MR. GRAHAM: Thank you.

CHAIRMAN LLOYD: I know I've got a failing grade from my colleagues for not enforcing the three-minute time thing very strongly.

So next we have Kevin Finney.

MR. FINNEY: Yes. I'm Kevin Finney with the Coalition for Clean Air. Thank you for this opportunity. Let me just quickly address two policy points in the broader set of issues that the ZEV Alliance has been presenting today.

On the inclusion of SUVs and the larger SUVs and light trucks in the program, it would be really an irony if a program designed to promote zero emission vehicles, instead created a perverse incentive for auto makers to produce more large SUVs and light trucks.

We all know that those are not only more polluting, but emit more greenhouse gases, and so we think that a first step down the road to changes to the staff
proposal that this board should take would be to make the base of the vehicles against which the program is applied, all of the passenger car vehicles, all of the light trucks and SUVs.

Secondly, neighborhood electric vehicles. I just want to add to what's been said, that I think there is a basis to question staff's argument that auto makers really have a reasonable expectation that these are included in the program. It's only been within the last year or two that these vehicles have been legal on the streets of California as a result of legislative action basically in response to folks in Palm Springs who wanted to use their golf carts to get to the country club.

But so, you know, the expectation certainly hasn't been there very long.

There's certainly no reason that you shouldn't be completely phased out of the program no later than 2005, and I don't see any reason they should be given multiple credits in the near term.

Finally, let me just add quickly a kind of personal perspective on this. Many people have been involved with this program dating back to 1990. This is the first time I've been involved in one of these reviews. I want to compliment the staff. I don't agree with everything in their proposal, but they've been serious, articulate,
dedicated and have done an excellent job.

But I think all of us as we're involved in this process have a tendency to adjust our expectations to what the balance of competing political and technological forces seems to allow, and I think as we think about the changes that have occurred since this program was first passed in 1990, it's important to realize that one of the changes is that we have much more firmly documented evidence now about the seriousness of global warming.

The international governmental -- Intergovernmental Panel on Climate Change, has now reached a consensus that we're likely to see four- to 11-degree increases in the global temperature over the next 50 to hundred years.

This is much more documented today than it was ten, 15 years ago.

Also many of the serious health impacts of air pollution, of particulates, of toxic air pollution, are much better documented now then they were at the beginning of these programs.

So I think it's important to keep those changes in mind as we reflect on how high the numbers should be.

So, yes, our group is joining in calling for increases up to a level of 25 or 40 thousand vehicles by 2010, but what we really think is that that should be at
least 100,000 vehicles by then. We have adjusted to the realities by maybe too much. Maybe too much.

Thank you very much.

CHAIRMAN LLOYD: Thank you, Kevin.

Supervisor, DeSaulnier, I know you --

BOARD MEMBER DeSAULNIER: Unfortunately, I have to leave. A very dear friend died in an auto accident just a few days ago, so I have to be back to be part of her memorial service in the Bay Area. So I apologize for having to leave.

I thought before I leave I'd share some of my thoughts with my colleagues, and you can call me, Mr. Chairman, if you're still at it at 10:00 or 11:00, and I'll think about coming back.

And if not, Kelly Brown has offered to be my alternate. It's an opportunity for him to be even more popular with his colleagues, I think.

I have six things that I hope will be incorporated in the direction the board takes when I'm gone.

From my perspective the plug-in electric hybrids, I think it would be best if those were out of the gold standard. If there's something we can do to be creative to give them credits, that's fine, but I don't think they belong there.

The idea of the ramping up that Mr. Stempel talked
about, I think it would be helpful, I've got some
suggestions, but maybe even if staff were given the
opportunity to work on that particular thing, to be able to
do something, and I do think working with the multipliers is
the cleanest way to do that to decrease it, to get higher
numbers in the out years.

And I think it's really important to work with the
northeast states to allow for the program to be successful
here first, so I hope there's a way that we can do that.

CHAIRMAN LLOYD: Mark, when you talk about out
years, can you define that a bit better?

BOARD MEMBER DeSAULNIER: I would think in terms
of the cycles for the manufacturers, 2006 or '7 to 2011 or
'12 to start to really see those number maybe come up
significantly. Maybe double in those years.

And then the issue of environmental justice that
the two members of the Assembly were here. It is very
difficult, I think, at least for myself, who I acknowledge
that because of my race and gender, I have had been the
beneficiary of some of the things in our culture that are
things that we continue to work on in terms of making a
truly equal society. So it's always dangerous, I think, I
feel uncomfortable venturing in, but I do think we have to
do a better job, and I don't know if it's just specific to
this issue. I think it's everything.
So I hope what we come out of here is that we can
direct staff to create an aggressive community outreach
program to minority communities and work with local
districts. I know in the Bay Area we need to do a better
job at the Bay Area district too, so we actually
institutionalize and staff some of the things that Dr. Burke
has been talking about, and get better at that.
And then, lastly, my interest about sustainability
and smart growth and the coupling of many of the sustainable
things that we have to deal with in California because of
our projected growth and the change in how we live our lives
around all fuels and energy, but how we plan for the future.
And this goes to station cars, but specific things we can do
to implement this program is to create something like the
Fuel Cell Partnership, but more of an implementation
partnership where we develop a partnership where we don't
just sit here and say we're not marketers, that's their job
and vice versa, that we actually come up with things.
For instance, station cars where we have some
control with other public agencies and transit agencies to
actually develop programs or fleet purchases.
So it would be my hope we create something like
that to as an ongoing sort of institutionalized program to
work with all the things that we're going to find over the
next two decades that are going to happen around this
direction.

So those are just some thoughts.

And in closing, I just say I've -- I hate to leave, because this is one of those moments in this appointment that really is a defining moment for the organization, for the state and for the country, and it's always rewarding to get to the point where you feel like you've done something that will make a difference, but will be successful.

And this is really an important ruling, and I honestly wish I could be with you at the end, even if Matt starts to lose his temper.

But I'm not leaving because I sit next to him. I'm not afraid of it.

I wish you well.

In conclusion, I think what happened with one of the auto manufacturers was unfortunate earlier, but truly what's good for California should be good for GM and vice versa, and I really believe that this program, if we do it right, is the best thing for California.

So thanks for indulging me, and I'll be thinking of you the next two or three hours.

CHAIRMAN LLOYD: Thank you, Mark.

Mark, and I also follow up and impose on you, or this is an offer, in September I asked you to lead a
transportation thing. When you talk about this implementation partnership, which I think is a great idea, would you be willing to take a lead and chair that?

BOARD MEMBER DeSAULNIER: I don't know. The last one went so well.

CHAIRMAN LLOYD: It's really painless.

BOARD MEMBER DeSAULNIER: I asked Chairman Lloyd after that meeting, I said what is it exactly you expect me to do, and Catherine Weatherspoon said, don't worry, staff will make you look good. And I, after being an elected official for ten years, I should have known then that you never wait for staff to make you look good.

I'd be happy to serve in any function, if you'd like me to, as long as I can rely on myself to make me look good or bad.

CHAIRMAN LLOYD: I think with that sort of challenge, I'm sure that staff will respond.

BOARD MEMBER DeSAULNIER: Good luck.

CHAIRMAN LLOYD: I think it's commensurate with what we heard today, so I really appreciate your offer there, Mark, and your leadership and your comments. And I know it's only something like that you go to a death of a friend here and a colleague that you would depart here too.

BOARD MEMBER DeSAULNIER: I appreciate that, Alan.

Just one last comment.
And being from a county that has four refineries in it, some of the comments about energy and our capacity for energy and multiple levels, I've seen colleague -- or constituents die in those plants when their capacity was being pushed, and that's going to happen again.

So the idea of having alternative fuels, I think, is absolutely necessary. And for me that's one of the main motivators that I think this program has to continue.

CHAIRMAN LLOYD: Thank you very much.

We have Sandy Spelliscy, Ed Huestis, and then Dr. Andrew Frank.

MS. SPELLISCY: Thank you, Mr. Chairman. Sandra Spelliscy with the Planning and Conservation League.

It's been a long 18 months, and I really want to thank the staff and all the board members who have opened their offices to us to listen to our concerns and work with us. We really appreciate it.

I'm only going to address one single straightforward issue tonight, and that's the issue of the number of pure ZEVs in the staff proposal.

We need to have more cars, more pure zero emission cars, in this program, and we need to have them in this decade. We can't wait until the next decade to get this program moving and to get a sustainable zero emission vehicle market.
If I can borrow from the analogy that was used this morning, you can't smother a fire by putting too much fuel on it too quickly, but you can also snuff out a fire by not giving it enough fuel in the first place, and we really fear that the numbers in the staff proposal will do that latter.

So that's where I really urge you to take a hard look tonight. I know that staff is urging caution here in terms of the numbers, but the ZEV program has never been about taking a safe route. Big ideas call for bold leadership, and that's what brought us this far, and we are confident that the board will continue to show the leadership that's brought us to this day.

And we pledge to continue to work with you to bring a pollution-free transportation system to California.

CHAIRMAN LLOYD: Thank you very much, Sandy.

Ed Huestis. Sorry if I mispronounced your name.

I apologize.

MR. HUESTIS: Huestis.

Chairman Lloyd, board members, my name is Ed Huestis. I'm the transportation systems manager for the City of Vacaville, between here and the Bay Area on 80.

And I wanted to just provide a quick update on where we are at with our electric vehicle program.

Right now currently this week we are installing
additional $75,000 worth of charging infrastructure at city hall, both of our community centers, our waste water treatment plant and our corp yard, the last two being for our city fleet vehicles, if and when we can get them.

That's in addition to 35,000 that's already installed at city hall in a park and ride lot.

And I have funding that I'm starting the paperwork for, it's already funded, but I have to do paperwork for an additional quarter million dollars of charging infrastructure at ten to 12 additional sites in Vacaville to support the I-80 corridor.

I mentioned the city fleet situation, because I still have Toyota RAV 4's on order since April, have not received them yet.

I have two Ranger EVs on order since May. Have not received them yet.

I have funding for an additional six to eight that we want to get, but I don't dare cut a purchase order until I show some results of getting vehicles in place.

So I talk about infrastructure and our city fleet program, our biggest -- well, the piece that has brought us the most attention is our residential incentive program, to where we offer $6,000 buydown off of the capital lease cost for initially it was 35 individuals and we just have recently approved another 55 individuals that can take
advantage of that opportunity.

We have eight EV 1 drivers in town -- this is a
town of 90 --000, four Ford Ranger EV owners, and that all
happened around the first quarter of last year before the
supply dried up.

We have many people chomping at the bit. I keep
them updated on email, trying to appease them to hold them,
keep them on a list until we can get the vehicles in the
stream so they can take advantage of this program.

More than hundred people on the waiting list.

These are not people that have just called up and said I
want a vehicle, put me on a list. I've actually had them
come down and meet with me for at least a half hour, maybe
45 minutes, to an hour, depending on how many questions
they've had, to educate them on the benefits of electric
vehicles and the limited choices that are available.

They have also submitted a survey with some basic
information that I can capture as far as how they found out
about it. In most cases it was word of mouth. We haven't
spent a dime on advertising. It was word of mouth referrals
and positive press coverage in our local newspapers.

And then I refer them to either GM or to Ford to
get on their list for the vehicles.

We are also expanding into the City of Dixon. I'm
going to help them out, a neighboring city, as part of this
expansion program, so they can have a mini-program of what
we're doing.

And by the way, we did pass a resolution, our city
council, a few months back that essentially directs staff to
replace all vehicles that are due for replacement with
alternative fueled vehicles, if at all possible, and
primarily CNG or electric CNG, because we just built a
Cadillac of a facility at our corp yard, electric, because
of the electric vehicle program that we're running.

Finally, we're featured on the current issue on
the back page of the ZEVolutions put out by the Planning and
Conservation League.

In this week off of the MoJo wire, I want my ZEV.
I'm not sure how many of you have seen this, by Mother
Jones. We're referenced in there.

As well as a survey that talks about a sampling
survey of fleet operators where there could be, it says
buying, let's see, expressed interest in buying up to 9,000
vehicles over the next few years from this sampling of fleet
operators and that there are obviously dozens of other
fleets across the state too as well.

So I respectfully request that you maintain a very
strong ZEV mandate so I can get some vehicles in town.

Thank you.

CHAIRMAN LLOYD: Thank you very much indeed.
Dr. Andrew Frank, then Tom Corbin, Anthony Luzi.

DR. FRANK: Hello, board, again. I get to speak on these things frequently.

This of course, is a plug for plug-in, pardon the expression. It's late in the day, so.

Plug-in hybrids have a place in the ZEV mandate.

I think we should encourage the car companies to build enough plug-in HEVs to make a business case, and that enough is the number enough as stated by Bob Stempel is about 100,000 units a year.

Now, all right. Should be 100,000 units a year.

I should remind the board that if ten percent of the vehicles were plug-in and each vehicle has a minimum of ten kilowatt hours stored in the car and it's equipped with a bidirectional charger, a number of people alluded to that, that's one that can take energy out of the wall or put energy back into the wall. Under utility company control, then after five years with a million cars out there, and trucks, you would have ten thousand megawatt hours of energy available at 5,000 megawatts of power. That's enough to take care of any rolling blackouts that we have had in the past.

And most important, the power is distributed so you don't have to -- so, now plug-in gasoline hybrids with either a gasoline engine or a fuel cell, a fuel cell can go...
into a plug-in hybrid just as well, will provide much
cleaner, higher performance, two and a half times more fuel
efficient than conventional cars.

Additional first dollar cost is within reach of
new technology. We just finished a study with EPRI. Within
reach, I mean 15 to 20 percent if you have a 60-mile range,
ten, 15 percent if you have a 20-mile range. So it is
possible.

We'll allow overall energy management to
transportation and a social system if you have a
bidirectional charger.

Plug-in gasoline hybrids will provide transition
to a much more efficient car, such as advanced internal
combustion engines. We're not done researching internal
combustion engines. There's much more efficiency and much
cleaner possibility out of that. That's yet to be explored.

And of course fuel cells in the HEVs, in plug-in
HEV.

And it allows the development of an energy fuel
infrastructure. Everybody has talked, many people have
talked about fuel cells, but they have not talked about an
infrastructure.

Plug-in hybrids, auto makers can do it now.
Renault has already got one in production. Mitsubishi
looked at it some years ago, Volvo, many other companies
have skunk works going on.

Grid charge can be done at 120 volts. That means you don't need a special electrical infrastructure.

Near-term transition to fuel cell plug-in in HEVs and that is we can -- it's a near-term transition towards fuel cells and true EVs. We can use all the existing energy infrastructure without any new infrastructure, and it's commercially possible now.

So, finally, we can -- we should encourage the car companies to build enough plug-in HEVs to make a business case and let the utility system manage the energy.

Setting manufactured numbers high enough to allow companies to make -- car companies to make money, let the electric power companies manage battery energy bidirectionally when the vehicle is plugged in.

And the most important thing is the owner of the plug-in HEV will be guaranteed no blackouts.

Encourage the fuel companies to supply energy to both the electric utilities and the gasoline vehicle and that means the fuel companies win as well.

The result is the entire society improves and it's a win-win-win-win situation.

Now, specifically what I'd like to suggest in terms of mandate changes, first thing is I think staff has -- there's been a number of discussions about the
numbers of vehicles that will -- that are in the mandate is
far too small.

I would suggest to staff instead of starting with
credits and building up to some number, why don't you start
with a total number of EVs or ZEV vehicles that you would
like to see per year and work yourself down backwards and
then arrange your credits so that let's say in three years
you want 100,000 vehicles, you start with 100,000 vehicles
to be manufactured, and then you let the manufacturers
decide how to apportion that between fuel cells, electric
and so on. That way you'll be guaranteed to have 100,000
vehicles in three years. So working it backwards is one
way.

CHAIRMAN LLOYD: Dr. Frank, if you can move along.

DR. FRANK: A few more points.

We should include SUVs, the plug-ins. Should be
because the plug-ins use 90 percent electricity and ten
percent gasoline for 60-mile range, then that should be a 90
percent gold standard and a ten percent silver standard.
Not taken out of the gold standard, but it should be
proportioned accordingly.

The warranty on vehicles should be all the same.

You should have the same warranty for fuel cell vehicle, for
battery EV, for plug-in. And the warranty should not start
at 15 years. Some of these new technologies hasn't even
been around for 15 years. You can't start with a 15-year warranty when you don't even know how it's going to act in 15 years. So the warranty issue has got to start at three-year warranty, I would suggest, and then evaluate that yearly to see how you might increase it as time goes on.

Finally, the infrastructure issue should have a multiplier on any fuel that's being used, whether it be methanol or a hydrogen or electricity. The way to figure that is an infrastructure factor should be the ZEV credit times the number of methanol stations divided by the number of gas stations.

After all, we're looking for clean air and if you don't -- if you can't find a fuel station to use that vehicle, it's not much use.

So this infrastructure factor will even the playing field with all technologies, and I think it's very important that we include something like that.

Thanks.

CHAIRMAN LLOYD: Thank you very much indeed.

Mr. Calhoun.

BOARD MEMBER CALHOUN: I want to mention that I went out to visit Professor Frank yesterday out at UC Davis, and they're doing a lot of good work there, and I'm very impressed. Appreciate the offer to come out. Thank you.

CHAIRMAN LLOYD: Continuing good work. It's
excellent.

DR. FRANK: Thanks.

CHAIRMAN LLOYD: Thank you very much.

Tom Corbin, Anthony Luzi and Marco Piffaretti.

MR. CORBIN: Hi. Tom Corbin, Corbin Motors, and I have a small visual handout for the board.

Corbin Motors, a California corporation, located in California, Hollister. 90 percent of our employees are Hispanic, and our county, 50 percent of the population is Hispanic.

We're the largest manufacturer of zero emission freeway-worthy vehicles in the world currently.

I am getting 40 to 50 thousand hits per day on my Web site.

I have 1,000 orders for cars, backed by $1,000 deposits.

I've been to Europe meeting with the government issues. Been in United Kingdom. I just got back from Montreal, talking to Dominos Pizza, Starbucks, extremely large fleet orders.

I think this year we'll probably make between two and four thousand zero emission freeway-worthy vehicles in the State of California.

I have not come to these meetings in the past, because I have contacted staff, and Sparrow owners have
contacted staff, and they were afraid to include us in any
of the legislation interpretations, and for various reasons
their fear stems from the fact that they feel that the big
seven would then use our vehicle classification as a way to
skirt the law.

But as you can see, they are now allowing golf
carts as credits for vehicles.

Now, there's a big change going on in the world
and people don't really see it. The change is it's no
longer going to be feasible to take a 4,000-, 5,000- or
6,000-pound vehicle into the urban environment. Forget
about if it's fuel cell, hybrid electric, electric, gas or
whatever, we don't have the room for it.

So you're looking at a paradigm shift in
transportation. There's other ways of personal mobility.

You heard that a lot, personal vehicle, personal
this, personal that. 87 percent of Americans travel less
than 18 miles one way to work. 93 percent of the time
they're alone.

I'm not saying sell your sport utility. If you've
got your sport utility, keep it. You need it on the
weekends for the soccer games. You need it to go to Home
Depot and buy some fence materials on the weekend so you can
build yourself a new fence.

But I'm saying a single person, specifically
designed electric vehicle, can replace 90 percent of the
trips that people would normally have to take in their sport
utility or passenger car.

We did not embark upon our program because of a
government mandate. We used our private family money. We
spent $5 million of our family money in the first three
years of development, which started January of '96, and last
24 months I personally raised 7.8 million of private
investment capital.

Every single day I get an e-mail being asked why
are we not included in any of the state programs.

And I can't answer them. I have to say, well, you
know, when the laws were invented and written, nobody
encountered the idea of looking at things new, new forms of
transportation. When they wrote the motor vehicle laws and
they wrote the rules, they weren't thinking of personal
vehicles.

But now that we have them, all's I'm asking is for
one simple amendment to your law, and if you just took this
one page and added one sentence, I would not have all these
people calling me.

We don't even care if we don't get any of the
grant money, but I still think we should get some. The
customers are buying the cars for 14,900. I'm making two
per day now. I'm ramping up to one car a day per month. By
the end of the year I'll be making 20 cars per day, and I
have orders and the people want to buy them with no
incentives.

So I would like it to say on page one of the
proposed regulation, zero emissions standards section A, the
executive officer shall certify new 2003 subsequent model
passenger cars, light-duty trucks, medium-duty vehicles, as
EVs and fully enclosed three-wheel single-passenger
freeway-worthy vehicles.

We would like to be included in the program.

BOARD MEMBER CALHOUN: What page are you reading
from?

CHAIRMAN LLOYD: Thank you.

MR. CORBIN: That's it.

CHAIRMAN LLOYD: Any question or comment from the
board?

As you probably heard, this issue has come up, and
I'm sure it will come up in our discussion.

MR. CORBIN: Thank you.

CHAIRMAN LLOYD: Thank you very much.

Do I assume that the other representative from
Corbin needn't come up?

Thank you.

Marco Piffaretti, Henriette Schoen and Graham
Hill.
MR. PIFFARETTI: Mr. President, ladies and gentlemen, it's a pleasure to be here. I will give you a couple of information about the true market test of Mendrisio, which has some similarity to what you are doing in California.

When we started in Mendrisio, we looked for eight percent. Why? Because eight percent was the goal of your first mandate.

We reached that goal in simulation in a town of 7,000 inhabitants and this shows how what you are doing down here is important to Europe and to Switzerland as well. I hope that you will have important goals for the next year, because otherwise I have less to do in simulating smaller goals in the next years over in Switzerland.

A couple of informations about what happened there in regard to market and cost.

Market is what we are discussing. Is there a market or not? We had, and remember in a town of 7,000 inhabitants, 400 EVs right now on the road and we have 300 more frozen requests because we've reached already the goal of eight percent, but they want more.

66 percent of these peoples are private clients and 98 percent of those are very happy. The other two percent never tried the vehicle before buying. This is the reason.
And the interesting thing which relates to the whole population is that at the beginning we had 63 percent of people in Switzerland, and which was in favor to support EVs and this percentage is 96 percent where EVs actually run.

And I could feel that in a lot of places in California this is exactly the same.

I want to say the market is there because there is a demand. There is a request for these vehicles.

In our case, sales is preferred instead of leasing, but this is not so important.

One interesting figure, we have Peugeot dealer, which is the champion down there among the different brands, he sells 30 percent of his vehicles electric and he lease with electric vehicles. He's a normal dealer. This could happen here as well.

Up to now we had 60 percent of subsidy for the purchase of the cars and the future will use a CO2 related subsidy structure.

But how could it happen that we reached 400? It's exactly the problem you have in the California. The price.

We tried for four years. The first four years -- by the way, the red line is the goal we have to reach, 350 vehicles, eight percent. We tried it during the first four years to convince people that the smaller running costs
would compensate the higher investments, but it was hard to do.

And then the first black line, vertical black line shows when we started it was possible to introduce a renting system for batteries, which made the cost structure exactly the same than for conventional petrol vehicles. So they invest the same money then on a better car and the running costs or monthly fee is exactly the same for the petrol.

The goals is to have equivalence in investment and running costs. People will hardly understand a different scheme than this one. I strongly believe that the same will happen also in California.

If it would be possible, and we have seen some proposal this morning, to introduce a scheme like that.

By the way, there are some small things about amortization of batteries -- you will have these in my documents I leave here -- to make in possible to offer different type of battery. Practical modernization depends on the quality of the battery. If you can give seven years of battery guarantee, which is the case for some of those types, then you will have a rate which is down to $120 per month and this works and for the battery company.

Right now the company doing this leasing is the leasing structure, the leasing brand over car manufacturer, but in the near future there will be more bank-oriented
companies doing this and companies belonging to power utilities.

To come to the conclusion, to the staff proposals, I think that the market is there. The request is there. Therefore, short term we have to ask OEMs to simply to produce and to market these vehicles. The request is there. But in the meantime we also need and we also need it in Switzerland and Europe, we need a long-term goal. It's hard to change from eight to four to two percent and then back to three or whatever every two years. We would very much appreciate if it would have a clear figure for 2016, for instance, which is also part of the proposed amendments of the staff.

And last suggestion is that there is, and I try to demonstrate it with this Swiss case, there is this financial possibility to solve the cost problem for electric vehicles if we return the battery costs and the running costs. Please try to do it also in California. You will see the cost issue will work out very well.

Thank for your patience.

CHAIRMAN LLOYD: Thank you very much for coming here. Very informative. Maybe staff could take a look at some of the ideas there. Maybe that includes a site visit, I'm not sure.

BOARD MEMBER C.H. FRIEDMAN: Quick question.
My grandson could tell me, he's eight, but he has a talking globe, but I honestly don't know where Mendrisio is in Switzerland. Can you tell me?

MR. PIFFARETTI: Yes. Mendrisio is the in southern part of Switzerland where the language is Italian.

It's very close to --

BOARD MEMBER C.H. FRIEDMAN: I gathered that.

MR. PIFFARETTI: Very close to --

BOARD MEMBER C.H. FRIEDMAN: Lugano?

MR. PIFFARETTI: Lugano. 15 minutes from Lugano.

CHAIRMAN LLOYD: Mr. McKinnon.

BOARD MEMBER McKINNON: Short questions.

Who produces the cars that the Peugeot dealer sells?

MR. PIFFARETTI: Peugeot, but we have a lot of brands there, Peugeot is simply one of those. The first one introducing battery rental. It's not the only one.

BOARD MEMBER McKINNON: And the other question, how do the petrol prices and the electricity prices compare with California?

MR. PIFFARETTI: The delta in the two, comparing the two costs, is more in favor for electric vehicles in Europe and in Japan than in California. This is true.

But there is still an important delta in California, and the states, to have a transformation from

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investment to running costs.

CHAIRMAN LLOYD: Thank you very much.

I think we have Graham Hill, Greg Hanssen, Steven Dibner.

MR. HILL: Good evening, board. My name is Graham Hill. I'm the manager of government and industry relations for Dynasty Motorcar. We're manufacturers of neighborhood electric vehicles.

Let me start out by saying there's been numerous comparisons to neighborhood electric vehicles as golf carts. Take a look at ours, dynastymotorcar.com, it looks like a VW Bug.

The CARB's ZEV mandates represents an evolved regulation whose time has come. The constant pressures on urban air quality, land use and livability standards make the cleaner ZEV the appropriate standard for the majority of urban trips.

Never has it been so apparent that the progressive battery EV can serve many of our personal mobility demands. A growing number of large European and Asian cities are banning gas cars in the urban core areas. They have taken action to remedy poor air quality.

Imagine downtown Davis, Union Street in San Francisco or South Central LA with stealth-like EVs cruising by a much improved dynamic, and it should be delayed no
further.

One such impact would be to continue to incentivize neighborhood electric vehicles. These urban EVs represent an ideal match for a great number of our trip demands. Home charging, affordability, and appropriate scale design best describe the advantages of this mission-specific vehicle.

By reducing the NEV credit too early in the ZEV program, we are reducing a reliable mode incentive.

NEVs need to be a mainstay for a busy pedestrian-friendly areas where they are most accepted.

They also represent a potential for significant use in transportation hubs, intermodal facilities and car sharing applications.

By reaching transit locations via a NEV, you showcase a passage for seamless smart mobility.

Smart growth initiatives, mixed-used communities and other VMT reduction strategies are becoming growing trends of how Americans live, travel within close proximity to housing, jobs and services.

Obviously, these are locations where the NEV will thrive.

We don't go fast and we don't go far and it's okay.

Thank you.
CHAIRMAN LLOYD: Thank you very much. And appreciate consideration of time. Thank you.

Greg Hanssen, Steven Dibner, and Alec Proudfoot, and Bill Mason.

MR. HANSSEN: Good evening. I'm Greg Hanssen from the Production Electric Vehicle Drivers Coalition.

Make a business out of it. This is what we heard from GM several years ago, before they would stoop so low as to use the California energy crisis or rustle up people to speak on entirely different but very important environmental issues in other neighborhoods, as an excuse to sidetrack us from the true goal of future fuel, very efficient zero emission vehicles.

When it comes to making a business out of it, I'm talking about a sustainable ZEV program here.

Of course the most obvious thing we can do for sustainability is to get the volume up, to get the costs down, and other people have already spoken on this today.

I talked to one foreign battery manufacturer who said that by reducing the volume from 20,000 EVs to 4,000 EVs, we could be looking at a price increase for nickel metal batteries of 70 to 80 percent.

Of course he asked to remain nameless there.

On the sustainability side, I see even if we had 20,000 vehicles, as Fritz Kolhammer did in his study, we
would still have a cost of around $10,000 for nickle metal hydride battery pack.

And that's why in conjunction with partners in Europe, like Marco, and people at the California Energy Commission, we are pursuing a battery rental, battery leasing company here in California. We see this as being a vital addition to the ZEV program of sorts, because it will remove the up-front costs burden from the auto manufacturers.

As a matter of fact, I have to give credit for this to my friend, Al Weaverstad, who at the second workshop talked to me in the cafeteria at Diamond Bar and suggested that if the auto makers did not have to worry about the battery costs in selling their EVs, they could sell the electric vehicles without batteries at a lower cost than a gasoline car.

So I started thinking about this and started talking to other people. And, of course, this has been pursued in the past, usually in the frame of reference of the utility companies, which, of course, are in no position to do this now.

So in talking with Marco and some other people, we're looking into proposals for a battery renting, battery leasing company, which would then put out bids for large quantities of batteries for a number of different applications and handle secondary use issues. For example,
a battery that might serve five or six years in an EV, might
still have several years of use in another application to
help amortize the cost.

Initially we have a huge program or a potentially
huge program here in California using the California energy
crisis as a means of using very affordable lead acid
batteries for peak shifting and power backup applications.
This could be the goal or this could be the initial drive
for the battery renting leasing company that gets it off the
ground.

Of course, ultimately my goal is to see this
company succeed with large volumes of batteries such that we
can have more advanced batteries, nickle metal, lithium for
use in electric vehicles, because as long has this cost
burden is there and the auto makers are fighting it because
of the cost burden, we cannot see any success.

Even if the auto makers never produce the vehicles
for sale to the consumer, simply being able to rent or lease
the battery pack and then pass on that lease cost to the
consumer would be beneficial for the auto makers because
they no longer have to pay the up-front capital for the
batteries and they no longer have to deal with what to do
when the battery is done in the vehicle or where the
secondary use is for the battery is, et cetera, et cetera.

CHAIRMAN LLOYD: Greg, can you wrap up there.
MR. HANSSEN: Absolutely.

So I am mainly saying that we are pursuing this right now with various agencies, and hopefully this will be the key to solving some of the cost problems for electric vehicles and the warranty issues for the batteries for electric vehicles. With the system like this, we would not have special credits beyond three or four years that would ultimately diminish the volume of vehicles because this would all be covered between the battery rental company and the battery manufacturers.

CHAIRMAN LLOYD: Thank you very much.

MR. HANSSEN: Any questions?

CHAIRMAN LLOYD: Thank you, Greg.

Steven Dibner.

MR. DIBNER: Hello. My name is Steven Dibner. I'm a musician in the San Francisco Symphony and I drove my EV 1 here just specifically to see the board members in person.

I am very impressed with the work that you've done over the years, and I really commend you for the efforts that you've made.

And I hope very strongly that you will hold to what you said at the September meeting, et cetera, et cetera.

Just a few things.
One is I feel very proud to -- I moved for the symphony job from New York, but I feel very proud to be from California for several reasons, and a few have to do with the laws related to clean air.

When the law was passed about the commuter high occupancy vehicle lane, to me that was a huge thing. Now, not only when I drive my EV 1, you know, people stop me every two blocks, and based on the design they ask what kind of car is that, I've never seen one, even though I've been driving one for three years now. And when I start to talk to them and I tell them about the carpool lane, they say where can I sign up.

And then, as you know, the frustration, well, you have to go into -- the contrast between what the GM sometimes says no customer demand and the waiting list, to me, those two don't go together too well.

The other thing I just want to say quickly about California law has to do -- I put solar panels on my roof now, so I'm charging my EV from the sun's energy and, you know, as of January 1st the AB 918, I think it is, having to do with PG&E paying back for the energy that I feed back into the public grid, et cetera.

I just want to say one other thing. Somebody representing the auto industry talked about -- I thought it was an interesting way of starting out, that we share the
same goals. And that was a nice attitude, and it's true that goals of cleaner air and advancing technologies, but then the phrase was that it must be done in the cost-effective manner.

To me, it's more a question that has a little bit of question of priorities. I think it's very important for this board to stick to what is truly important and to represent the health and well being and the future of the citizens of California and therefore pushing along those who have other interests, financial and otherwise, to do the right thing, and to make ways to find it happen.

To me, the fact that the EV 1 appeared in 1998 is no mystery. It had to do with the concerted efforts and pressure put on this board for people to do the right thing.

So I thank you very much.

CHAIRMAN LLOYD: Thank you. Thank for coming here.

Alec Proudfoot, Bill Mason, Jerry Pohorsky.

MR. PROUDFOOT: Hello. I submitted written comments about two weeks ago, so I'll be really brief.

CHAIRMAN LLOYD: Credits go up for brevity.

MR. PROUDFOOT: I think that there's been a lot of discussion about the place of hybrids and the four percent ZEV requirements. I just want to make a few comments.

Advanced technology PZEVs do not belong there.
There's a real fundamental difference between advanced technology PZEVs and grid recharge hybrid. It all comes down to grid rechargeability. If you have grid rechargeability, then you'll get many true electric miles, and the 20-mile range hybrid will have, in order to be a viable vehicle, will actually have quite a bit of battery and will be a good viable car.

There's just one problem with it, and therefore I support having extended range hybrids in the four percent. However, there's a problem and there's a loophole in that the definition of the all-electric range is not sufficient for defining extended range hybrid.

The proper definition for an extended range hybrid should be it's operated in a normal -- when it's operated in a normal mode, the range is when the APU kicks in. Right now the way that the definition is in the emission requirements is that APU is explicitly turned off and then the test is run. In that situation you could have a Prius with a slightly larger battery, the APU is artificially turned off and the test is run, and in normal operating modes it would operate just like any so-called advanced technology PZEV.

Staff has told me that they're looking at this definition and they may deal with it in the LEV 2 discussions later in the summer, but I wanted to bring that
And finally I think that there needs to be similar language to the language in for the sort of weaker hybrid, which says that the extended range hybrids need to be designed with -- to encourage charging and they also -- there also really should be the fact that a charger needs to be included with the purchase of a car. If there's no charger, it either needs to be built into the car or if it's an external charger, it needs to be included, otherwise the whole thing is completely moot.

So I hope you consider that and thanks for letting me testify.

CHAIRMAN LLOYD: Thank you very much.

Bill Mason.

Thanks, Bill, for continuing to contribute.

MR. MASON: Sure thing.

I had some great visuals prepared, but since I'm retired and PowerPoint disadvantaged, you won't be able to see them other than in your package there.

The ZEV mandate currently calls for about 22,000 true ZEVs starting in 2003.

The Battery Technology Advisory Panel and 2000 report it was determined that nickle batteries were ready with regard to technology and life, but that a volume of about 20,000 packs a year would be necessary to achieve any
economy of scale.

In its final staff report last August, staff revised its conservative sales estimate downward from 29,400, to 20,400 potential applications, but still consistent with the current mandate volume for true ZEVs and with the volume needed to achieve economy of scale for nickel metal hydride batteries. In other words, an initial volume of 20,000 makes sense from several points of view.

The staff proposals on the table will cut the volume of true ZEVs by 58 percent to 9300 or by 80 percent to 4650 with the advanced technology PZEV option.

In 2008 the percentage reductions are even greater. 70 percent by proposal 1 and 80 percent by proposal 2. These cuts in true ZEV volume partially are rationalized by staff based on assumed cost savings to the auto manufacturers.

It's true that if the auto makers take full advantage of the advanced technology PZEV option in 2003, they would achieve a cost savings of 43.7 million over doing all over four percent as true ZEVs.

Chuck Shulock stated this morning that this savings diminishes over time, but what he didn't say was that in 2004 that savings drops to only 8.1 million, and by 2005 and continuing through 2008 the ATP ZEV option would actually cost 43.3 million more each year than doing all
four percent true ZEVs.

And between 2003 and 2008 the total cost of taking full advantage of the ATP ZEV receive option would actually be 105.3 million more by staff's own estimates.

Staff's latest estimate of potential applications for true ZEVs in 2003 breaks down into 16,000 fleet sales and 4400 retail sales.

If the mandate for true ZEVs is cut to either 9300 or 4650 vehicles, there's the danger that the fleet demand may overwhelm the available supply of EVs, especially if some or all of the auto manufacturers decide not to make their EVs available to the public.

As already happened during the MOA period for similar reasons, retail customers may again find it difficult, if not impossible, to lease or buy an EV.

Longer term, staff's proposals are even more unacceptable. The first proposal doesn't exceed 20,000 true ZEVs until 2015, and the second proposal peaks out at only 14,000 in 2018, never reaching the 20,000 volume needed for economy of scale for nickel metal hydride batteries.

While the ZEV mandate is proposed to increase the 16 percent in 2018 under proposal 1, the true ZEV requirement only increases from four to ten percent, and under proposal 2 only from two to five percent.

In 1990 your vision was ten percent true ZEVs in
2003. Proposal 1 delays that vision by 15 years, and proposal 2 not only delays it by 15 years, but it also cuts it in half, both unacceptable.

To summarize, we find proposal 2 unacceptable. If ATP ZEVs need to be incentivized, they should be incentivized within the six percent PZEV requirement, not within the four percent true ZEV requirement.

And also because proposal 2 in actuality, by staff's own figures, it's actually more expensive than proposal 1.

We also find the volume reductions under proposal 1 to be unacceptable. We think a quicker ramp-up to 20,000 a year is needed and that can be done by adjusting the phase-in multipliers and the credit schemes, and we'd like to see more volume long term.

Thank you.

CHAIRMAN LLOYD: Thank you very much.

(Applause.)

CHAIRMAN LLOYD: Comments or questions?

I guess Chuck is not here on the cost issue to see whether that statement that the option is more expensive.

Okay.

MR. CACKETTE: I'd just point out that even if it is, it's an option, so presumably they would take the low cost option, which, if that's correct, would be four percent
EVs.

CHAIRMAN LLOYD: Jerry Pohorsky, Dennis May and Tim Hastrup.

MR. POHORSKY: Dr. Lloyd, honorable board members and staff, many of the remarks I have have already been made.

If you want to get the whole story, I've given you these yellow handouts. I'll keep the remarks short.

This month I spoke with EV representatives from GM and Toyota. Neither one had an EV 1 could lease now, but both mentioned there may be some news after this hearing.

The auto makers are braced for your decision. You can make or break the battery ZEV with your decision this week. The auto makers are focused on profits, not our health. Will you cave in under the pressure of their lobbying efforts or will you do the right thing like you pledged in September?

Go for the gold, don't settle for the steel.

If each of the seven auto makers produced a thousand ZEVs a year starting now, we would have 21,000 by the end of 2003, and they don't need any more R and D time. They could simply produce more of the same cars made under the MOA. Wouldn't it be nice if we could just go to a dealer and drive one home? All of the people on the waiting list could stop waiting and start driving the smog-free car...
of their dreams.

The MOA ZEVs will work for most commuters. I drove mine daily for five months. My commute is 23 miles each way.

Wait a minute. I'm going the wrong way. Here we go.

I loved my EV 1. I was a happy GM customer. I had fun, fun, fun until GM took my EV away.

I'm not happy about having to wait so long to get it back. It's been nearly a year of being kept in the dark about when it will be released to me.

With a strong mandate, GM will have a strong incentive to get it back to me ASAP. A strong mandate will help make other ZEV models available to the public for the first time, such as the Altra or the Epic.

AB 2061 will help make these ZEVs more affordable.

I'm going to skip this slide.

The auto makers have already beaten down the number of ZEVs from ten percent to four percent. We need a critical mass of ZEVs to ensure their success. Two percent won't do it.

We support credits for early deployment, however, so I can get my car back quickly.

In closing, let me encourage the board to stay the course. We need at least four percent true ZEVs to do any
good. AB 2061 has been signed into law, but virtually
nobody has been able to take advantage of it due to the
shortage of ZEVs. Credit for early deployment could solve
that problem. Let's have more ZEVs, not more studies.

Thanks for your leadership thus far.

(Applause.)

CHAIRMAN LLOYD: Thank you very much.

Dennis May, Tim Hastrup, Mike Thompson, Jesse
Powell.

MR. MAY: Good late afternoon, ladies and
gentlemen. My name is Dennis May. I'm from Thousand Oaks.
I don't sell anything to do with cars. I don't
sell anything to do with batteries. I don't even have an
EV, but when I get one, the 44 miles a day that I drive to
and from my golf course, past a school, will be very quiet
and very clean.

(Applause.)

MR. HASTRUP: Good evening. Thanks for having us
all here. My name is Tim Hastrup.

I was here in September with my wife and, you
know, one of the things that we really enjoy the most about
having an EV, what we're most proud of is basically
education. We feel in our family that ZEV success, it's all
about education. People need to understand that, yeah,
things are a little bit different with the ZEV vehicle, but
different doesn't mean bad. Different means great. They've improved our lives, will improve a lot of folks' lives.

So that's a good message and it's a lot of fun to share that message with folks.

Our problem is that there are no vehicles. We need cars. We can talk until we're blue in the face, but if people can't get cars, that's bad.

We're concerned that the two percent ZEV proposed is too little. We feel more comfortable with the four percent.

We need retail availability. I think the example that we've set kind of in the general population is real important. Fleet use is good, but limiting some of the cars to fleets only, is not a good option.

Lot of folks are used to buying their cars. We've been happy with lease. It's the first time we've ever leased anything, but for lot of folks purchase is really really key.

And really when we look at where we are today, what we're most concerned about is that when our leases are up, we may not be able to continue driving ZEV, and that's a real concern for us.

From our point of view, the marketing study's already been done.

This is in front of our house this past weekend.
So the results are in. The owners like us, we love our ZEVs, there's lots of unfilled demand, and we need more vehicles, not fewer.

So what we like to ask is for your continued leadership. We feel our future as ZEV drivers -- we were happy and very thankful that Honda renewed our EV lease in May, so that hopefully we can go another two years. We've got over 40,000 miles on the car. But we're still nervous if that car breaks, that we won't be able to find a ZEV alternative.

So we really need your continued leadership. We enjoy doing our part.

We hope that our daughter and son, Christine and Carston, can look back in 40, 50 years from now, show their grandkids this and say, see, there was somebody at one time way back in the early 2001 time frame, you're great-grandparents were starting to drive ZEVs, just like everybody does today. So we want to keep that legacy going.

Thank you very much.

CHAIRMAN LLOYD: Thank you.

(Applause.)

CHAIRMAN LLOYD: Mike Thompson, Stephen Casner, Rex Hodge.

MR. THOMPSON: For those of you who haven't seen me before, what's my motivation?
Well, it's basically the public health. I've been kind of concerned with that sort of thing and the future generations. You leave a campground, you leave it a little bit cleaner than you found it, and our air is not a sewer for us to wantonly destroy.

And for the health of our children. I've got two kids. Before that I was concerned with the health of other people's children and the public health in general. I mean, it's obviously taking its toll on asthmatics today.

Why do I do this kind of thing? I mean I just have to look at the American Lung Association web site. What is their motivation? And we look at the issues that show up on their web site, what's important to them.

Also the Union of Concerned Scientists.

To keep the numbers a little bit shorter, I'd like to reference the testimony by Roland Hwang, Jason Marks, and Bill Mason. Consider that included in my comments.

On the subject of grid rechargeable hybrids, they're not quite the gold standard. They are a pragmatic step. They should not be in the four percent.

There may be some clever things you can do with the six percent, but do not dilute the gold standard.

And one of the critical reasons for not diluting the gold standard is you have to hit the critical mass in terms of volumes.
As Mr. Kolhammer, I believe, stated, if I recall this correctly, they need volume of about 20,000 packs of a particular type and configuration of battery to make the volumes.

I realize it's a tough ramp to hit, but that has to be taken into consideration.

In terms of the grid chargeable hybrids, with bi-fuel vehicles there's always been a problem of you purchase a bi-fuel vehicle, you get all the incentives, you take it home and you continue to power it off of gasoline, because the alternative fuel is hard to get, or you just don't care.

The chargers and their installation need to be included with grid chargeable hybrids at the purchase time. There should be minimal or small incentives at purchase time for grid chargeable hybrids. We have to trust the auto manufacturers, the emissions computers anyway, to the emissions.

So those computers, since they're already trusted, could also monitor the EV miles traveled, the ZEV miles traveled by that grid chargeable hybrid, and that can be reported at a smog check type thing where the consumer receives a rebate check and has an incentive to use the vehicle in the proper manner.

How does something like AB 71, the carpool lane,
go into this? I don't know. That's an interesting mix when you start throwing it in the gold standard. Do they have a big red light, green light on the back when they're operating pure EV, they can maybe get in the carpool lane for a little bit. And people have some incentives to get these things when they're doing the right thing and when the APU kicks on for a long trip, they have to go out.

I don't know, but there are some possibilities to really monitor them, and we already have to trust the computers that are there today, so it's not a stretch to trust the emission computers.

As far as including SUVs in the mandate, this is a real problem because we certainly don't want to pull the rug out from under the auto manufacturers who have made some serious attempts to get us EVs and they are trying to dance around the realities of what we're asking to do, and provide some solutions.

But we also don't want to provide, what I would call the SUV escape hole and that is that if we base it off of passenger cars, the natural thing is go market the SUVs. You've got higher profit margins on them anyway, you don't have to make the EVs for it, that's clearly not what anyone wants in terms of the air quality benefits.

So maybe what we can do is do a scale factor now where the SUVs are included today, but scale the factor so
that it's still the same number of total vehicles.

And I heard earlier that number was like 50 percent increase, so the scale factor would be like 70 percent or something.

Then later that factor could go down to one.

CHAIRMAN LLOYD: Can you finish up there.

MR. THOMPSON: Sure.

In terms of outreach, EV drivers are doing this now. Tell us how we can help in the future.

The fair market test, staff submitted, that was great. You've already heard the Mother Jones article. I referenced that again.

In addition to that, there's, for example, EV rentals. Their business is stifled because they can't get EVs, they can't expand the business.

Cost, we talk about cost and their dollar cost, the automotive and their environmental and public health costs. We need some way to reflect these costs back. We need a sustainable market that requires realistic costs for auto makers. We need some way to give them credits for the externalities of improved public health.

The Mendrisio idea of basing credits in terms of CO2 production was very interesting.

There may be some credit trading with power companies to get cleaner air overall and make the economies
for the auto manufacturers. And we certainly don't want to
drive them out of business.

And the last point, environmental justice, a
little bit of a joke. The person behind me benefits most.
I wish I could follow myself.

CHAIRMAN LLOYD: Thank you.

Stephen Casner, Rex Hodge, Ron Chestnut.

MR. CASNER: Hi. I'm Stephen Casner from
Sunnyvale, an EV 1 driver.

I'd like to echo a couple points about chargers,
charger installation being included in the -- with the
plug-in hybrids. I think that ought to be something
specific in the mandate.

And similarly that the requirement that vehicles
be made available to the public, as well as to fleets,
because otherwise we don't get any visibility.
People have talked about the need for getting up
the volume so we can reduce manufacturing costs, but there's
also a requirement for the volume to be to a certain level
so we get visibility, so the people actually realize that
these vehicles exist.

Because as we've heard now, people really don't.

One specific other change that concerns me, or
aspect of the proposal that concerns me, is section 2 A on
fast refueling, talks about the giving full unlimited range
credits to vehicles that can refuel in ten minutes.
And if it's a 20-mile vehicle, being able to
refuel that in ten minutes doesn't mean that you can really
drive it for an unlimited distance, because it's not
practical to be refueling every 20 miles.

So there is another 2 B clause there that's based
on 60-miles range, but I think that the 2 A clause as well
should be based on miles per minute or miles per unit time,
rather than just percentage fill over ten minutes.

To sum up, my concern is that about the
neighborhood vehicles is that there's sort an unspoken
strategy of the auto manufacturers to put out only
neighborhood vehicles in the early years, to have those not
be successful in the market, and then to use legislative or
legal means to try to overturn this mandate.

So my concern is that we should include
full-function vehicles as a requirement, not just as through
credits.

CHAIRMAN LLOYD: Thank you.
Rex Hodge, Ron Chestnut, Doug Korthof.
Compliment you on your article in News and Review,
Rex.

MR. HODGE: Thank you. Thank you.
As you can see from that article, and from our
testimony last September and many other appearances that
we've made right here in Sacramento, I feel is the best fuel
cell vehicle development program in the world today, and
that is ours, and of course I say that with great bias,
being the president and CEO of the company.

We have a very talented team of engineers and
technicians that is working on a profitable fuel cell
vehicle powered by hydrogen, completely zero emission, that
does not require a hydrogen infrastructure, because we
bundle in with the price of the car an electrolysis device
that's installed in your garage that makes hydrogen and
oxygen at night and that's put into the vehicle and allows
us to propel the vehicle with about a 700-mile range.

And we've developed this vehicle over a seven-year
period that our company has been in existence, completely
privately fund with private investment money.

We're getting there. And we have, I think, fuel
cell to do it. We have the car to do it. And we plan to
produce and sell 5,000 of these vehicles in 2003, 30,000 in
2004 and 50,000 in 2005.

I see no reason at all to change the numbers that
were presented in September.

Volume is the key here. I come from the world of
designing rocket engines. That's where I come from and
where some of the other people on our staff come from.

Fuel cells have been used in rocket engines for
some time. Working with hydrogen and oxygen is something we do routinely in rocket engines. We're using composite materials like carbon epoxy from the rocket industry. We're putting that into cars. We're doing it in a way that we feel will be less expensive than the way cars are built today, not more.

We're accomplishing this, and anyone who wants to talk to us about it, we can show the evidence of that.

One of the most important things you can do is keep the volume up of the zero emission vehicles.

Our company is funded by private stock sale by very sophisticated people who need to be able to look at the numbers and see that these mandates exist.

Some specific notes, I would say that one of the things that hasn't been mentioned yet is intermediate car companies. It's not necessary for every existing car company to have their own zero emission program, because companies like ours can sell the credits via the law that currently exists, and can allow them to satisfy that requirement. They don't necessarily have to build their own system.

That's also true for others who are trying to get up to the economies of scale. It can be done by some pathfinder companies that can hold the burden.

So I would like to have the staff reevaluate
whether or not it's necessary to delay the status of BMW and
some of these other companies.

Again, I think that the SUVs should also be included in the baseline, and we should try to get those volumes up.

America is a country full of very clever people, especially in technology development. There's really very little that we can't do.

The problem is we don't do it unless properly motivated. There almost has to be a crisis or a definite statement of goal. We didn't get to the moon by continually putting it off. We got to the moon by accepting the challenge and doing it.

The technology is there. This can be done.

I'd like to say one final note. I used to be a supporter of methanol, until I really looked heavily into the health effects. The oil companies are willing to support hydrogen in the long term, not in the short term, but in the long term.

They're not willing to support methanol in any term, and the reason is they don't want another situation on their hands where something is put in for supposedly environmental benefits, and then later is rejected based on health benefits.

Just a couple of teaspoons of methanol is enough
to kill you.

So the oil companies and my company are rarely in agreement, but we are in agreement on the methanol issue.

Go to hydrogen, because it's the final solution, and we won't have another situation like we have with the MTBE.

CHAIRMAN LLOYD: Thank you, Rex.

I should point out, however, on the California Fuel Cell Partnership that methanol is one of the options being discussed, and clearly no one is going to deliberately take a couple of teaspoonful of methanol.

So I think that all of these fuels, no matter what they are, they have to be used with sufficient precautions, et cetera.

MR. HODGE: Yes.

CHAIRMAN LLOYD: Thank you very much.

Now we have Ron Chestnut, Doug Korthof and William Korthof.

MR. CHESTNUT: Hello. My name is Ron Chestnut. I'm not a rocket scientist. I'm a nuclear physicist and I worked at SLAC, Stanford Linear Accelerator Center.

The first government thing I ever went to was last March, and I watched the staff in action here, and I thought that was very interesting, and I'm glad to meet, to see all the people from CARB, because since then I've gotten very
active and I've talked about you a lot. I've given
colloquiums at SLAC and LVL about EVs and the ZEV mandate
and such.

At SLAC we have two EV 1 owners. We have an EV
Plus. We have a Honda Insight and lately two Priuses. And
the last guys who bought a Prius had heard my talk, and when
he bought it he came up and apologized, because he really
wanted an EV, but they weren't available and this was the
best thing he could get. And then he looked at how the
charging works to see if he could put a charger on his
Prius, and he looked to see where he could put more
batteries. He's a double E, and he can probably do all that
stuff.

We have also looked at the Think City as a little
car to run around SLAC, and it would be a nice idea for
SLAC. Unfortunately, we are having a problem getting GSA to
approve it, because it's not an alternate fuel vehicle, and
I guess I have to go through some more hoops to get that
done.

Just as a little aside, if -- I wouldn't take that
thing out on the freeway. It would just be a speed bump. I
know it's freeway approved, but okay.

Now, one of the -- the other person who bought a
Prius came and announced -- and I'm the person everybody
talks to about those cars at SLAC -- and announced that she
had an electric gas hybrid that was half and half electric.

And I'd like to -- that's an example of how clever the marketing is that the automobile manufacturers use.

So if they're that clever and can sell that idea when it's so blatantly wrong, it can't be very difficult to market a real EV with all of its positives.

And I have a modest suggestion.

If you had a billboard at the toll plaza, and on the billboards a big picture of the HOV decal, and it said if you'd like to be eligible for one of these, call, and then it's some number, perhaps it's a number which distributes to all the auto manufacturers Web site.

That would -- you'd have people ordering, making appointments to see the cars before they got over the bridge, I think.

I don't think it's very hard. I think there's a great demand. There's three more people at SLAC waiting for EV 1s, by the way.

So specifically to the staff modifications, I was very surprised and actually a little shocked when I first read it.

I'm concerned, as others have said, that there will be too many neighborhood electric vehicles. They may have a role to play, but I'd really like to see that they're full-function electric vehicles and a lot of them. I don't
know how to do that. But I would hate to see golf carts and
Priuses for the next few years.

Part of the reason is, as somebody else has said
earlier, that's the wrong image to project to the public.
It's taken us so many years to get away from the golf cart
low-power image that it would be shame to go back to that.

Thank you very much.

BOARD MEMBER C.H. FRIEDMAN: Thank you, sir.

Any questions from anyone?

Here's your chance to ask a nuclear scientist a
question.

All right. We had now Doug Korthof and followed
by his younger brother, William.

MR. DOUG KORTHOF: Exactly. Thank you, sir.

My name is Doug Korthof. I live in Seal Beach.

And with respect to the last speaker's statement,
I have -- I do as a matter of fact support a number of Web
sites, and on one of the Web sites I do have an area where
people can sign up who are willing to give their name,
pledge their faith to get an EV and to say that they're
behind the mandate. So far 470 people have signed up.

So you know there is a demand. And it's
unfortunate that it's not being met.

Now I have a lot to say and I will send you some
letters about these points that I'm going to raise, so you
can interrupt me and throw me out at any time.

I work on the campaigns, and I work on a sea otter campaign down on the ocean, and we are vitally interested in zero emission vehicle mandate, because the entire oil economy causes trouble for sea creatures.

But I wanted to go back and talk about the car companies.

First of all, the car companies are based in very hard-headed businessmen who did an amazing thing at the turn of the century. These were gutsy guys. Henry Ford, you know, General Chrysler, all these guys that did all this stuff, and now we have these auto companies that are a pale reflection.

If I listened to what they had to say this morning, with all due respect for the great tradition of the auto companies, I would say that my experience with cars, electric cars, is all for nought. I would say they don't run. I must be crazy, this is a dream, because, according to them, they don't go far, nobody wants them and they're not fun to drive.

And I know exactly the contrary.

When I, as Mr. Burke asked, where do people find out about these meetings, well, being a conservative Orange County type, I read about it in the Orange County Register about 1994. And at the time I owned five gasoline cars. It
wasn't in the Times, it wasn't in the Sentinel. It was in
the Register, because they wanted people to come and
complain.

But instead I came and found out and I tried an
electric car when they first became available. Instead of
five gasoline cars now, we're going to get rid of our last
gas car, if they ever get around to giving us another EV,
because we only have two with three drivers. So there is a
compunction to these cars.

Now, the auto companies need to learn that they
have to -- as good businessmen get down to work and make
this thing work. That's what the auto companies did at the
turn of the century. That's what they did when we ran into
the oil crisis of 1970. These are Americans who can do the
job. There's union workers behind them. There's no reason
for them saying we can't do this. They can do this and they
will. That's the law and that's what we need to expect of
them.

Now, Mr. Burke's question was why don't we see
more people from communities of color here.

And I'd like to point out that one of the things
that we do in these meetings is -- well, I don't do it -- I
see it all the time, is people raise wedge issues.

When you're backed into the corner you throw a red
herring on the table. You muddy the punch bowl.
And one of the things to do is say, well, what about these communities of color, they can't afford these electric cars anyway, all it is is for these white suburbanites.

Now, this is a wedge issue designed to drive a wedge between us.

However, that is not the question. The question is do these communities of color recognize that they have, as we all do, an interest in clean air.

And you look at the people that care about this, Communities for Better Environment, and we have the 1402 rule down in El Monte -- I mean in Walnut, they sent hundreds of people there, and who came on the other side but the Western States Petroleum putting a couple of small merchants up to saying this will kill our business, when the real issue is that the refineries every night are spewing this stuff out every night at 3:00 in the morning. You can go out and see it.

And that's what Communities for a Better Environment is talking about.

The oil economy, which is spewing out, and it's awful, they say pollution in Beverly Hills, they transfer it to Wilmington.

BOARD MEMBER C.H. FRIEDMAN: Excuse me.

Unfortunately, your time has expired.
MR. DOUG KORTHOF: I will say that you can throw me out at any time. I will say that --

BOARD MEMBER C.H. FRIEDMAN: I accept your invitation.

MR. DOUG KORTHOF: Yeah. Okay. It's late.

I will say that what my vision is, and what your vision has been, is that not only are we going to see the ZEV mandate expanded with volume, as Mr. Stempel said, but we want to see the oil economy turned around. We want to see the refineries pulled out. We want to see all the cars being electric. We want to see the oil economy going away. Oil is a valuable commodity, should not be burned going to work.

So that's our vision is that we're going towards not 10,000 cars or a hundred, we're going towards seeing all these gas things going away and the sea otters, which depend upon having a clean ocean, not having to live in the detritus from the refinery stuff that falls into the ground, is washed into the river and goes into the ocean and kills the sea otters, be with the pollution, and not have our beaches be full of oil spills, which also kills the sea otters.

BOARD MEMBER C.H. FRIEDMAN: Our ultimate goal is zero emission. That's the goal.

MR. DOUG KORTHOF: That's correct. Thank you.
CHAIRMAN LLOYD: Thank you very much.

William Korthof.

MR. WILLIAM KORTHOF: Good evening. It's a pleasure to address you.

CHAIRMAN LLOYD: Any relation?

MR. WILLIAM KORTHOF: Yeah, he's my dad.

William Korthof. I'm a resident and I breathe the air in Southern California, which is why I'm an EV driver. Took a while and I had to be persistent, but it happened eventually.

There's a few points I wanted to mention with regard to the proposals for modifications.

I was very pleased with the results from the September hearing, and I was a little bit disappointed with what seemed like definitely some very thoughtful and effective processing by the staff, but I think too much in terms of volume reduction on the vehicles.

First point, I think we need more volume of EVs. Further reductions will shortchange the growing market of EV customers. We need more, not fewer cars.

Second, the fair market test that's been proposed by the Alliance of Automobile Manufacturers, I'm pleased to hear the ARB's rejection of this obvious diversion.

We have already had a fair market test, it's called the memorandum of understanding agreement, and that...
provided for 2000 vehicles on the road. All of those
vehicles were placed into customers' hands, customers who
paid a premium to have those cars, had to deal with
difficulty, adversity getting them from a few select
dealers, certain specially trained advisors under specific
terms, lease only, can't buy the car, you can -- you're not
able to keep it after three years is over, and so on and so
on.

So I think we've assessed the market, and I think
it would be great to see the AAN supporting further market
research in the form of 20,000 vehicles for next year and
the following year and accelerating that until we can
saturate the market for new electric vehicles.

The third point, glad to see GM raising the
environmental justice issue. I live in a mixed-income
neighborhood with many residents who can only afford older,
used vehicles, and this is particularly annoying to me.
There's very little you can do about this. When people have
older vehicles, and they can't afford to fix them, and they
can't afford to buy new vehicles, the only thing we can do
in the long run, short of taking people's cars away from
them and depriving them of the perceived right of
transportation, is building vehicles that don't degrade in
their emissions over their lifetimes.

And EVs, ZEVs are the way to get there. ZEVs
start out at zero emissions, and as they get older and they
get less expensive, the second owner, the third owner, the
vehicles do not become more expensive to maintain, and the
people that end up with those cars are not subject to
excessive pollution and having to deal with gross polluters.

Final point. I had a few specific comments
regarding the specific proposals for modifications.
I think the efficiency credit was a good idea.
I'm not sure how -- I'm not sure that having that multiplier
in there is so good.
I think PZEV should not be included as ZEV credit
substitutes, unless they can be fully ILEV, meaning if you
took out all of the emission controls they could actually be
an ILEV and also be a SULEV.

So they have to be --
BOARD MEMBER C.H. FRIEDMAN: Your time is up. If
you could just conclude.
MR. WILLIAM KORTHOF: I think the credit
multiplier is too steep.
Again, I think we need more ZEVs, not fewer, and
I'd like to be able to introduce more people, including many
of my housemates, to electric vehicles once they become
available again.
BOARD MEMBER C.H. FRIEDMAN: Thank you,
Mr. Korthof, very much. Like father, like son. Thank you.
Stephen Heckeroth and then we have the final three, Gary Nin-Austin, Lisa Rosen and our final witness, Eugene Dunlap.

MR. HECKEROTH: My name is Steve Heckeroth. Thank you for this opportunity.

I charge my home and my car and my tractor and my lawn mower and all my tools with my photovoltaic roof.

I wanted you to pass this around. That's a sample of the photovoltaic roofing that is on the roof of my house and barn, and it provides -- that one cell is one and a half volt cell that provides seven amps of power in the sunlight.

The staff report makes a mockery of your commitment as stated in September.

Plug-in hybrids are not zero emission vehicles.

We have to include all passenger vehicles in the mandate.

The SUVs, the only reason they exist is because they're promoted by the auto industry. Last year the auto industry spent 48 and a half billion dollars in incentives, and this is just the big three, in incentives and advertising. With that kind of a budget, they can sell a Prius to the president. Notice I didn't say an EV, because I don't think that's possible.

A 3,750 pound weight limit just encourages the auto industry to produce vehicles over that weight. And
that's exactly why we have half of the vehicles sold in the State of California that weigh over 3,750 pounds.

If I had my way, I would create categories for every type of vehicle. I wouldn't even limit it to vehicles. I would create categories for every product that pollutes, and make a ten percent mandate for each one of those categories.

In other words, for trucks there's a perfect match. Fuel cells are perfect for buses and trucks. Why not give them a ten percent mandate?

Why not give lawn mowers a ten percent mandate?

Why not give everything that pollutes a ten percent mandate, instead of just cars that weigh less than 3,750 pounds?

I want to leave you with a thought.

When you burn a seven-pound gallon of gasoline, you create 20 pounds of carbon dioxide. That means that two-thirds of the fuel you're burning is oxygen. This is the only planet that's been discovered, except on Star Trek, with oxygen.

So we have -- it's the most precious thing, it's most precious resource on earth, and we don't consider it at all in making our choices of the way we get around.

Thank you.

CHAIRMAN LLOYD: What was that number again, seven
pounds?

MR. HECKEROTH: A gallon of gasoline weighs about seven pounds and it produces -- when you burn it, it produces 20 pounds of carbon dioxide.

I can spew facts all night.

CHAIRMAN LLOYD: We appreciate it. One is fine.

Ms. D'Adamo.

BOARD MEMBER D'ADAMO: I have a question, sir.

Sir.

BOARD MEMBER C.H. FRIEDMAN: Mr. Heckeroth.

BOARD MEMBER D'ADAMO: Just wondering if you could -- do you have any pictures of your house and your barn? What does that look like?

MR. HECKEROTH: I showed the pictures last time in September, but my time ran out before I could say anything, so I decided I'd just pass this around this time.

This is Uni-Solar.

BOARD MEMBER D'ADAMO: Would you compare it to solar panels or shingles? I mean, how do you utilize it?

MR. HECKEROTH: Actually it's more efficient.

This is solar roofing. This comes in the 12 volt module is nine feet long. It's made up of ten cells like this.

The 24 volt module is 18 feet long, and it's made up of 20 cells. And that's 128 watts per panel.

And it is roofing. You can roll it out on your
roof and you can roll it out over an existing roof or you
can roll it out on a plywood deck and put battens over the
edges, and you’ve got your own solar charging station. It's
a Uni-Solar product.

CHAIRMAN LLOYD: Thank you. Are you going to send
that on, circulate it? Thank you.

MR. OVSHINSKY: It’s the technology Mr. Stempel
referred to, along with the nickel metal hydride battery.

CHAIRMAN LLOYD: So we can expect some free
samples then?

Thank you.

Henriette Schoen, then Gary Nin-Austin, then Lisa
Rosen and Eugene Dunlap is what we show, and that's it.

MS. Schoen: I’m Henriette Schoen. I’m working at
the Electric Vehicle Information Centre in Denmark. And
I’ve come this long way to express a very big interest
Europeans have in what you’re doing.

BOARD MEMBER C.H. FRIEDMAN: Excuse me, ma'am, You
need to speak right into the microphone.

MS. Schoen: Sorry.

I’ve come this long way to express the very big
interest Europeans have in your very visionary ZEV mandate.

California is leading in environment issues like
the catalytic converter. It’s sometimes after you import it
here, come to Europe.
And I just want to bring the global perspective to your decisions.

You have -- you set the standard for what we're doing.

I want to stress the volume of the ZEVs are needed, and because there's also a market in Europe for the cars made here, I think you should stop the biannual changes, the major changes. It should be minor, because it's stalling the process of the whole process. In fact every time they have to, the auto makers, or the suppliers have to readjust their plans, and it's not what is so good for everything.

I have a proposal. In fact, the efficiency credits could be taken from the CO2 emissions, what the car emits, instead of just on fuel consumption.

But that's -- so I'm just completing.

CHAIRMAN LLOYD: Thank you very much indeed.

Thank you for coming.

(Appause.)

CHAIRMAN LLOYD: Gary Nin-Austin, Lisa Rosen and Eugene Dunlap.

MR. NIN-AUSTIN: Chairman Lloyd, members of this board, it's an honor to be here.

I'm the founder of two companies, Fusion Dynamics and its subsidiary, Pure Eco C Conversion, and that is my
green Chevy pickup out front with the license plates from California which read Hydrogen.

Currently in this country and Europe as well, bulk hydrogen is produced using a pressure swing absorption system from natural gas. Natural gas has gone through the roof for prices. I'm from Oklahoma originally, and people there are paying more for natural gas heating than they are their rent.

We have our newspaper stories here about our difficulties and they are having theirs as well.

Pure Eco C Conversion has been working for many years to advance the technology to produce hydrogen and potable water from the same source, being the Pacific Ocean.

This facility is designed to run on a tubular solid oxide fuel cell from Siemens Westinghouse.

We're very much in support of everything that you're doing, and I just want to say thank you.

CHAIRMAN LLOYD: Thank you very much.

Lisa Rosen, Eugene Dunlap.

I'd just like to mention to my colleagues that we do have pizza at the back, so if you need some sustenance before we get into the discussion period you might grab some and then come back.

So we intend to continue. Thank you.

MS. ROSEN: Chairman Lloyd, members of the board
and staff, I'm always honored and humbled to come and speak

to you.

I have to say, your stamina, your patience, your

respect never cease to amaze me. And I am so impressed with

what you have done.

In the beginning when you started having these

hearings, some people I know tried to prevail on me to

attend, and I had no interest in it. I had pretty much

despaired of the way everything was going in the

environment, and it seemed to me there was nothing anybody

could do that would help.

Because of your efforts, I'm here.

I've worked as a probation officer for many years, and now I have four weeks of vacation, and I dare say that

almost half of it will go this year towards testifying

before you and participating in various workshops. That is

how important that issue has become to me personally.

I can sympathize with the people who work, who

aren't able to come, who aren't able to indulge themselves,
as I were, by taking the time off, taking my vacation time

and coming here.

Some of them are just too stressed. Sometimes I

feel that way about coming and trying to talk about these

issues.

Some of the things I hear today are puzzling.
There's a lot of controversy about whether or not plug-in hybrids should be considered. The board seems to lean towards it.

I talk with ever so many people who look at me and my electric vehicles in astonishment. In a way they want one, the whole idea intrigues them, but they are absolutely terrified of making the leap.

I'm convinced that if they had the opportunity to drive electric vehicles, with that backup cushion of being able to fill it up with gas when they had to, they would, as I, have become so enamored of the idea of driving that way, and so pleased with the results, that they would not want to go back, any more than I do.

Thank you very much.

CHAIRMAN LLOYD: Thank you very much.

(Applause.)

CHAIRMAN LLOYD: Eugene Dunlap.

MR. DUNLAP: Hello. My name is Eugene Dunlap.

I'm here as a father today. I have my hat on as a parent, not the UC Davis hat, where I work for the Extension and got the electric vehicles into the program, but as a father of a son, of a 16-year-old son.

And I want to pass that around.

Because my son has reduced lung capacity, he has reduced lung capacity because of the pollution. And it's
very hard for me to speak about this.

I can speak very easily about electrical vehicles, a terrific relationship I have with Air Resource Board in helping us get one there, but it's very hard as a father to look at your son and see when he goes outside and he wants to run or something like that, he doesn't have the strength to do that.

And so I'm here as a parent and I'm here as a parent, to urge you -- maybe you have children or you have grandchildren and maybe -- and I hope not that some will have reduced capacity.

I am old, I'm almost 50, and you're probably most older than me, our lung capacity is not in question here. And it's the capacity of the children.

When I read the report I was shocked. I mean, the 8th of September was my son's birthday, his 16th birthday, and I went home and I told him, look, you're not going to understand this, this is not a Gameboy or something, this was the greatest present you got.

And now I read the report that it's going to be cut back, and I don't understand it. It's almost like their playing a ZEV strip poker or something here, or you have somebody in there that doesn't have blood in their veins, but gasoline.

It is very hard for me to understand that.
I urged you when you go, don't only think about, you know, money, what it's going to cost, think about the people that are involved.

If I go to GM and show them the picture and say reduced lung capacity, what is he going to say, oh, no, it's not my car, it's Ford's car or something that caused it. They all -- nobody takes responsibility.

So again, please, please, think of my son when you make these decisions. Thank you.

CHAIRMAN LLOYD: Thank you very much.

(Applause.)

CHAIRMAN LLOYD: I think that's the last of the witnesses that we had signed up.

So, Mr. Kenny, did the staff have any further comments?

MR. KENNY: None at this time.

CHAIRMAN LLOYD: I will now close the record on this agenda item.

However, the record will be reopened when the 15-day notice of public availability is issued.

Written or oral comments received after this hearing date, but before the 15-day notice is issued, will not be accepted as part of the official record on this agenda item.

When the record is reopened for a 15-day comment.
period, the public may submit written comments on the
proposed changes, which will be considered and responded to
in the final statement of reasons for the regulation.

So I think at this point I would like to throw it
open for discussion, and then we will follow that, before we
take a vote, we will go to ex parte communication.

I think we have got a number of issues that need
to be addressed.

I think Mark, Supervisor DeSaulnier, before he
left, raised some of those issues that we want to address
there.

Clearly, those address the travel issue, I think
the increasing number of vehicles, the gold standard,
et cetera.

And what we didn't say, there's couple of other
issues I want to indicate there, the inclusion of the buses.
Couple of other issues.

But maybe before that, I would like to maybe look
at my colleagues.

One of the suggestions I had was that we've heard
quite a bit of discussion about the need to increase the
number of vehicles, and clearly this is going to be a
discussion item.

One thought I had in discussion with staff was
tried to look at the doubling of the number of vehicles by
2012, and maybe starting that in May 2007 or something like.

Again, we can have some discussions on those items.

I think the SUV issue, I'm sure we've got some consensus there.

I think the sustainability, smart growth needs to be addressed, and we need to have that partnership, and I think that's a very important aspect.

I think the gold standard, I thought I heard more consensus here that we could restore that if you like, but also maintain the plug-in hybrids, that's a very valuable contribution there maybe to put in a second.

A few of the ideas in conjunction with Mark, but I would say I'd like to give my colleagues a chance to also add in, amend or whatever.

So I don't know whether Professor Friedman or Mr. McKinnon --

BOARD MEMBER C.H. FRIEDMAN: I'll start.

I want to hear from my colleagues, because I'm still thinking about it, but I would like to react to what I've heard today and what the staff has presented.

First, what I've heard.

I have benefited greatly from the presentations today. I think they've been very lucid, clear and informative. And while they've run quite a gamut from those
who participated, all it does is reinforce for me the
obvious, which is that this is not an easy area.

There are different agendas, different objectives,
different interests, ranging from pure human and medical
concerns to environmental concerns, that is to say localized
concerns to financial concerns. And I think it ever will be
thus.

But it's our task, as I see it, to sort through
this, as it was for the staff riding point for us, to sort
through all of these somewhat competing interests, sometimes
inexorably conflicting, intractably conflicting objectives
and interests, and try and come up with what makes sense and
what might work, though we may not fully please, and
probably could not fully please any one constituent,
interest or group. At least that's how I basically approach
it.

But I don't doubt the sincerity of anyone who
spoke or presented views, and I don't doubt that there is
truth and validity to what they said.

Having said that, with respect to the staff's
proposal, I too am disappointed in the sense that I wish we
could maintain the mandate. I didn't adopt the mandate, as
I mentioned, I wasn't involved in this area at that time.
Nor was I even here when the mandate was revised and when
the MOE or U or A, whatever, were entered into, and that

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noble experiment was undertaken.

But I do think that we had to in September send a clear signal that our goal in March is still to the goal of zero emission. Our destination is clear. It was one of the speakers most recently who say the day should and must come when we no longer have emissions, and I think that's as important today as it must have been ten years ago, and it is, I hope, will be into the future.

The question is how do we reach that goal and with what pace, given resources, given all of these differing and competing interests.

And I think the goal that we set quite, must have been fairly arbitrarily, it was a best shot, but back in 1990, how did any of those who sat in our chairs know that two percent or ten percent or 15 percent in ten years, or whatever the date then was, I know it's been pushed back, would entail, what it would cost. I know there was higher hopes for battery technology, longer range, cheaper cost batteries, among other things.

On the other hand, probably fuel cells and other technologies hadn't been much thought of then that are now almost the choice de jour in some quarters.

So we're not dealing with something that has been graven in stone and handed down to us in front of a burning bush, if I could use a metaphor. It seems to me we're
dealing with the best human efforts of people who tried to be wise, as we must.

And therefore they're imperfect, and I'm sure we'll be imperfect, judged by hindsight, but we must try.

As far as the staff's proposal, when I thought about it and looked at it and heard comment on it, I think it does in most respects faithfully represents a faithful, an honest effort to accomplish what I think we stated, as I heard it and understood it, back in September was our desire to preserve this mandate.

It does I think preserve -- it does provide near-term vehicle availability in lower numbers, quite lower numbers, but numbers that according to staff are calculated to be marketable and placed in service, so that it's calculated in their view to succeed and not fail in the marketplace.

And it does provide in that near-term availability a vehicle range of choice, with varying and fairly complex credits for earlier introduction, and it does maintain or partially maintain a pure gold or a ZEV standard.

I'll come back to that, because I too have concerns about what will qualify for that.

There is a ramp-up, in three-year intervals, and I think there is some sense, and common sense to the three-year planning intervals for the manufacturers and for
marketing stability. I think that that allows advanced planning for the makers and market stability for those who are trying to market and it gives some experience in the marketplace, and it gives more time to educate the public.

And there is then a component for public education, and I believe there is built into it, I hope there is, the kind of participatory collaborative marketing effort and support that all of us, I think, should be enlisted in with the manufacturers.

It also does reduce costs to manufacturers, no question about it. It would be a lot less costly to comply with this mandate as presented then the original mandate or any other earlier version of it.

It does maintain core technology incentives. It does involve technology forcing.

And I think it will result, I think at least I would hope, and it seems calculated to result ultimately in a sustainable market for ZEVs or near ZEVs.

And I compliment the staff on taking a problem with so many dimensions and a challenge and crafting such a very carefully thought out, complex, yes, but I think elegant plan or solution under a great deal of pressure from all sides.

Now, as to my comments on how I would like to explore changes, or at least my reservations and concerns, I
would like to see -- and I also want to comment on the expanded stakeholder group suggestion that wasn't much mentioned here, a working group to receive recommendations on such things as standardizing the charging and the infrastructure issues for EVs and outreach.

But my problem areas, and they're similar to supervisor DeSaulnier's, first of all, I don't know why we shouldn't use the full range of not only passenger vehicles but SUVs as our baseline in some way.

Now, I don't think that that necessarily should mean an increase in volume in the at least in the first years, given what I perceive to be the need as well to assure that we get off the ground soundly this time and don't end up with a lot of vehicles that haven't been placed.

But couldn't we take the percentage of passenger sales that we're now proposing, based on the base year, which I understand is the three-year period earlier or a historical period, and then also provide that it should also increase by the increase in the number of SUVs that have been sold, the increase in the sales, the increase in the sales volume of SUVs for that same period. In other words over some other period. It should be based on increase. It shouldn't be a retroactive penalty, because they've never been included in the equation, but there's got to be a way
to take an increase on some fair basis once if that happens
and if we should decide that.

So that to the extent that there's any more
marketing of SUVs and sales of SUVs above the baseline in
the base year, then that the same percentage of that would
also be required to be made, not as SUVs necessarily, but
they would have to be made as qualifying low emission
vehicles.

So that's one thought, but I am troubled by the
idea that we're building in incentives, whether deliberately
or not, to make more SUVs, which are polluting and
apparently are getting more and more popular, not less and
less, and that just discourages what -- it's a perversion.

I also think that the hybrid has a place, but I
think it may well be until it's further developed,
 transitional, a way station on the road to full zero
emissions, but I can understand the last person's comments,
or the next to last, that it may be the way for people to
get into this new technology, with the comfort of gas, gas
kicks in.

I'm not so worried about whether they are entitled
to the -- plug-in electric hybrid should be entitled to the
diamond lane or the such, because, I mean, as I understand
it once those cars are going fast enough to be in the
diamond lane, they're in the gasoline mode. I doubt that
very often they're being run on electricity. I understood
that they were basically electric to start and get up to a
certain speed, when the emissions from the internal
combustion engine would be reduced and it would kick in, but
maybe I don't understand it.

In any event, I think we can solve those problems,
and I think there ought to be incentives, at least in the
early years for the hybrid, so-called plug-in hybrid, but I
don't think it ought to be -- I just have trouble giving it
the gold standard. It isn't. It emits. It's got emissions
when it's running on gas, gasoline. And it isn't the
equivalent.

And I hate to see us dilute that standard, but I
do want -- I do hope that there would sufficient incentives
if we moved it into the so-called silver category or some
other category.

I agree with the chairman's -- the issue he raised
of increasing in later years the volume, and I think
probably the best way to do that, combined with the increase
in SUV sales being taken into account as increased number
all along, would be the reduction of the multiplier for
the -- reducing the multiplier in some reasonable way.

Again I'm not technically, I'm not competent to
suggest that what the numbers ought to be. I'm hoping some
of my colleagues can help me there.
Perhaps in the year 2006, '7, somewhere in there on.

And which I think is what's Supervisor DeSaulnier said.

And only two other points, the neighborhood electric vehicle, I think that's worth trying too, and I know that it could save on emissions to the extent it replaces people turning on their car ignitions just to go a few blocks, visit a friend, go to the country club, go to the golf course, or whatever, tennis court, wherever they go, just to go down to get gas. I guess it won't eliminate those trips unless you take a little red can.

But I think maybe I would feel better if there was some way we could reduce the credits a little that the staff is now proposing for those, or maybe reduce them more quickly, but I'm not -- I need to hear more discussion on that point.

Colleague McKinnon mentioned the highway-capable battery motorcycle. If that replaces a car or a regular motorcycle that's loud and emitting, then I'm all for giving it some incentives, but I think that ought -- I personally think that ought to be treated separately, it ought to be a separate issue. We ought to deal with motorcyclists, hear from motorcyclists on all sides. I'm sure they'll have views. They had them on whether to wear helmets, and other
things, and deal with that separately. But I think it
deserves being considered and if necessary we can always, I
would hope, we could amend it in if and when we decide how
to treat it.

And finally I guess that relates to the Corbin
Sparrow. I'm not clear what the implications of including
or not including a three-wheel one-passenger all-electric
vehicle that's highway capable, and our rule is, apparently
they're the only people who make it, that's all they make,
so there's no mandate for them. Maybe they get some credits
for subsidies or something else if they are brought into the
program, and that wasn't clear what that was all about.

But again to the extent that there is available
and people buy and use as an alternative to using emitting
engines, an EV, on the highways, especially, as well as if
we're going to give neighborhood cars some credits, then I
think that maybe we ought to consider what the implications
of including them would be, unless of course that involves
changes in the Motor Vehicle Code, which I'm not sure is our
function.

I thank you for your patience.

CHAIRMAN LLOYD: Yes. I have Mr. McKinnon,
Mrs. Riordan, Supervisor Roberts, Supervisor Patrick.
Mr. McKinnon.

BOARD MEMBER McKINNON: I think I'll kind of maybe
lay kind of changes, and just do this kind of expeditiously.

I think probably the first and only issue I raised, the big concern about today is that the way the three-wheel enclosed motorcycle is included.

And what I would like us to do is include that three-wheeled enclosed motorcycle as one of the vehicles addressed, and have staff come back to us later and resolve issues like how much credit.

But I think the credit should be something like a neighborhood electric vehicle. It's not a lot of credit. And it also raises a whole issue about whether or not folks can buy and sell credits, because Corbin isn't required to make these, by any means.

And that's actually kind of an attractive issue for us to think through, because we have now heard Peugeot is selling them, and we've heard others, and if there's others that want to sell them, and there's manufacturers that don't want to make them, that's kind of an attractive discussion, probably separate from today, or we're going to be here for three or four days.

But on the next issue I'd like to talk about, and that's the plug-in hybrid. I think it was Mr. Proudfoot when he testified that talked about segregating the types of hybrids and whether or not they were really running on electricity or gas, and I think that we need to work on some
definition there that does that kind of segregation, and to
the extent that a plug-in hybrid can run on electricity
virtually all the time, but only goes to gas or fuel cell or
whatever else, only goes to it when needed for longer range,
that I think there was a number tossed out, I think
Professor Frank talked about giving it 90 percent of the
credit we give a full ZEV.
And I guess, frankly, where I'm at is if it comes
out of the gold standard, I'll be fine. I can live with
that.
But that we consider how we incentivize it
appropriately to what it really does.
And because I really honestly think there are some
consumer kind of market opportunities with that technology,
and I also think that the dual-fuel stuff and energy crisis
and fuel shortages and fuel spikes and so many things, that
we are finding out this century may include in our lives.
It's a real interesting technology for us to make
sure is in our bag of tricks to move forward.
With that, very interested in figuring out a way
to raise the numbers as we get out to 2007, 2008, 2009,
maybe finding a year we agree to include the vehicles over
8500 pounds in the count.
And then I know Roland, from Natural Resources
Defense Council, proposed some numbers. I don't think I can
go with them as early as he's talking about, but some of the
credit reduction kind of theory doing steps maybe some time
after that, is what I'm thinking.

With that, it's been quite a hearing.

BOARD MEMBER C.H. FRIEDMAN: Red light is on.

BOARD MEMBER RIORDAN: It has been a wonderful
hearing, and let me first express my appreciation to those
of you who came to testify today, and to our staff for their
due diligence from the beginning of our charge to them last
fall to come back to us with some working document to then
have the hearing today.

Let me just say, thinking about the diversity of
California, and if we recognize that we have some very rural
areas, we have some very urban areas and different products
are going to sell in different areas, in my humble opinion.

And I'm very interested in continuing to encourage
again, Mr. McKinnon, somewhat like you, the hybrid, because
I think in our more rural areas this is going to be the
vehicle of choice.

Now, I may be wrong, but I somewhat suspect that,
and so I do understand the need to perhaps move it from the
top tier, the gold tier that we've talked about, but hope
that staff can give us some guidance.

And I might ask you at this point in time is there
something that we could do if we wanted to continue to
incentivize that, but remove it from the top, which I would
agree with my colleagues about.

MR. KENNY: I think the answer is yes. I think
what we need to do is essentially looking at providing
fairly substantial credits for it in the context of that
second category and hopefully that would provide sufficient
incentive and if that's the board's direction we will be
happy to look at that and try to figure out a way to provide
that incentive.

BOARD MEMBER RIORDAN: So we can leave it, if we
have agreement in that, we can leave it to you to work on
those final numbers of --

MR. KENNY: Yes.

BOARD MEMBER RIORDAN: And I appreciate that.

I like your idea, Professor Friedman, about tying
some of these increases to the increased sales of SUVs.
That I think is something that might be pursued in a very
fair way.

And like Mr. McKinnon, I certainly agree that some
time out, and I can't call the year, we need to look at an
increase of volume, and I would support that.

I don't know what year and I don't know if the
staff has thought about that.

I recognize you were working within a framework
that you've obviously proposed, but after listening to the
testimony and perhaps listening to some of this in this discussion, there may be a year that you could again recommend.

I'd value your input, because you have known of the more proprietary information that we're not necessarily party to, and you might be able to best judge some of those years that need to be put into a document that we ultimately all agree to.

So with that, my comments are finished.

CHAIRMAN LLOYD: Then I've got Supervisor Roberts, Supervisor Patrick, Ms. D'Adamo, Dr. Burke, and I guess Mr. Calhoun.

Supervisor Roberts.

BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

And I want to thank everybody who testified here today. It's been a very long day, to say the least, and I hope we're still coherent by now.

Not being the senior member here, but having been here now for several years, I want to at least make some observations.

And I appreciate Professor Friedman setting the context for this whole thing.

I couldn't help but note how different this meeting was today from those we might have had six years ago. Six years ago there was this incredible optimism over
batteries in terms of where we would be today, and we had
compact after compact coming in here telling
us about every conceivable kind of battery.

There was almost none of that today.

I remember we talked about not just lead acid and
metal hydride, nickel cadmium and lithium ion and zinc
sulfur or some other type thing that I can't even remember
at this point, but there was every conceivable kind of
optimism over every conceivable kind of battery and there
was a hope and an optimism that we were going to have very
long-range batteries by now and very low cost.

Some of us might remember it slightly different,
but that's at least what my feeling was.

And that simply has not happened, and we don't
have through these technologies the widespread solution that
we, I think, had hoped, and that's why we're here today, I
guess, because we can't get the numbers, because we don't
have the products and it didn't develop in the way that we
had.

I'm not saying that this is a sign of failure.
I'm recognizing that the reality and the experiences over
these last several years have not been at least what I as a
board member was expecting.

Having said that, I think we have to now do what
the prior boards had to do, and kind of look at our own
crystal balls and try to see what does that future look like
and where should we be going and what is evolving.

   It looks like with respect to the batteries is a
series of markets, I won't necessarily call them niche
markets, because that somehow connotes very small little
pieces, but they're not comprehensive solutions. There
isn't anything out there that seems to hold the same
promise. Maybe it will happen, but it doesn't look as
likely with the exception, with the exception, of perhaps
fuel cells, which seems to hold the same promise today that
the batteries did some six or so years ago.

   Fuel cells, the gentleman that made the comment
about fuel cells always being six years away, that's not
been my experience. I wasn't expecting six years ago that
we were going to have a fuel cell today. I don't remember
anybody testifying that.

   And there's a whole real difference in what has
happened and what our expectation was with batteries as
compared to with fuel cells. Fuel cells, I think, today
very much look like what some of these advanced batteries
were looking like six years ago.

   So with that kind of as a context, we've heard
some things about the energy crisis. Down in San Diego we
know a lot about the electricity crisis, I can tell you
that.
But we also know about the natural gas problems. And in San Diego we also know about the high cost of gasoline, which averages about 20 cents a gallon more expensive than most areas, so I guess for us if we were going do it, we'd throw them all out and try to find some way how to get by on sea water, which is plentiful in San Diego.

So I'm not a big fan of what the oil industry has done and continues to do in this state and particularly does in my community, and I'll admit to that bias.

My hope is that what we can do today and set that it's exceeded by some breakthrough and some success, whether it be fuel cells or whatever, and that we see some major changes in the not only the modes, but in the emissions and the impacts on our air.

Later this year I will become a grandfather for the first time. The gentleman who spoke, who is that young guy at 50 years old, and I want to be able to look at that grandchild also and tell him we did the right thing.

I find myself mostly in agreement with Professor Friedman. I would like to maybe delineate some areas where I have some concerns.

I think SUVs ought to be a part of the solution, period, and while I can see us phasing in, I don't think they should be at some lesser discounted rate for here and
ever after. We may have a step-up to get there, but they ought to be part of this, period. They've been forever ignored. They're ignored by us like they weren't part of the pollution problem for too many years, and they should be included in the number here, period.

And I don't know how many years it takes to get there, but it shouldn't be some discounted figure based just on increases. It should be a figure that we grow in so they're hundred percent here in a short order and reasonable period of time.

So where we have the same concern I maybe feel a little bit more strongly about this, that we ought to see how to get them in.

I don't think the plug-in hybrid electric vehicles should be part of the what we have been calling the gold standard. I'm not sure we're using the same definition. And I'm not sure that some of the testimony that they were using the same definition.

I'm assuming, Professor Friedman, that the gold standard is maybe the top two percent. Is that correct? Where they would be zero, and if that's the case, I think we're, you and I, are in agreement.

I'd like to see an increase in volume, period. As I look at those out years, those numbers are not as significant as they ought to be. They pale in comparison to
what was there and why now where we're looking so much ahead
are we kind of backing off from what seems to be more
reasonable numbers.

I think, I mean I -- and not only would I be in
favor of reducing multipliers, I'd be increasing just those
numbers, period. I mean, I would feel in some of those out
years we ought to be looking at two times what's there.

And I think especially from maybe 2008 on, just to
pick a number, which seems to be in the midrange of what
we've talked about.

So whereas we can look at reducing some
multipliers, I think we ought to be looking at increasing
the volume, period, and by a significant factor.

The neighborhood electric vehicles, I agree with
you, I think there should be a quicker reduction in the
credit. I think that's what you were -- what you're
stating.

And with respect to the Sparrow, I think we ought
to be discussing that when we discuss motorcycles. I
wouldn't even put that in that same category. I feel maybe
a little different about this.

What really I find ironic, we're being told this
is selling pretty good now and we're trying to figure out
how to give it a credit. They're selling, let them sell
them. I'm not sure why we're feeling compelled to bring

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that into this equation at this time. I think it's significantly different from most everything else that we're working on.

I would have one final thing and that is staff had interjected a change to allow credits prior to 2001 that I don't think was part of the original, and I think may have grown out of some conversations that they were having in some deal making. I don't think we ought to do it. I would --

CHAIRMAN LLOYD: I would agree.

BOARD MEMBER ROBERTS: I'd like to see that cancelled and I'd like to see it moved back to where the original was. I don't see a why reason why we should be doing that retroactively at this point.

And so to the list of issues that are on the table I would like to -- I would like to add that, and I think for me at least that's a pretty complete list. Hopefully we'll be able to craft a motion out of all of this at some point.

CHAIRMAN LLOYD: Thank you.

Supervisor Patrick.

BOARD MEMBER PATRICK: Thank you, Mr. Chairman.

I would like to thank everyone who came here today to give us your opinions about this very important subject. Just as in September, I think that there has really been a very thorough airing of what the issues are,
and I think that that's critically important to what this board decides.

I think that staff has worked very hard to come up with a very balanced approach, and there has been every effort to make a successful start to this program.

As I was reading through some of the news clips that people gave us, one of the editorials referred to this program as ZEV light, and I think that perhaps we have gone just a little bit too light on our commitment and to this mandate, because remembering back to our two-day hearing in September we all were very committed to this program.

We need to balance to make sure we get off to a good start, that our expectations are not set so high that the program is doomed to failure.

On the other hand, as we progress through the years I think that we can do more to enhance this program and how important it is to everyone.

I think the biennial reviews have served to stop and start and stop and start the program in many ways in that there's been so much focus on trying to get this board to back off the mandate, that there should have been more focus on getting the companies to be able to achieve the mandate. That's just a personal opinion.

I do think it's important that the board be kept apprised through an annual or biannual technology review to
keep to let us know where everybody is, but I think that we
need to say once and for all that we're moving forward on
this, to craft what we think is the very best and the very
best interest of the public and move forward at that
particular time.

I appreciate all the input that's been given, and
I do agree with several things that have been mentioned by
my colleagues.

I am completely supportive of the plug-in hybrids,
but I do not think that they belong in the gold standard. I
think it's very important that the gold standard be for zero
emission vehicles, period, end of sentence.

I come from an area that's more rural than some of
the areas that other folks come from, and I do think that
hybrids play a very important part in this. But I think
that we need to say a gold standard is a gold standard, and
there's nothing wrong with that.

I do think that we need to be aware of all the
options that are out there. It's a very diverse state, and
I think it's important that we have everything from soup to
nuts in there to the extent that we can, and giving credit
for that.

I think SUVs should be a part of the numbers that
we're using, and, as I recall, Ms. D'Adamo asked for some
input from staff, and I don't know at what point in time
we're going to see that. Perhaps when DeeDee makes her
comments.

But I'm anxious to see what the numbers would be
if we began to include the SUV and at what point in time
they should be done.

I think it's very important that we do have some
kind of an implementation partnership. As I recall, when we
talked about this in September, our board was certainly
willing to reinforce the mandate that was put in place so
many years ago, but also willing to step up to the plate in
terms of our responsibility to make sure that it's a
successful program. It is not just incumbent upon the
automobile manufacturers to make this a successful program,
and I think the staff's proposal reflects that.

And so I congratulate you on that.

But we're all in the same boat together. We have
a mandate. We're firm about that mandate. But we want to
make certain that we're all successful together.

So whatever we can do, I think that we need to be
a part of that.

With that, Mr. Chairman, I'll conclude my
comments.

CHAIRMAN LLOYD: I agree.

Ms. D'Adamo and Dr. Burke and Mr. Calhoun.

BOARD MEMBER D'ADAMO: Thank you, Mr. Chairman.
Would staff would like to use this as an opportunity to share that information?

MR. SHULOCK: What we have done is laid out a couple of scenarios.

The first thing, in response to Board Member D'Adamo's request is that the numbers we're going to show are expressed in terms of full-function vehicles plus city vehicles. So these numbers will be higher than what we have seen before, but it illustrates what would happen if there's a mix of vehicles produced.

And the basis, we just decided a 50/50 split, 50 percent of the credits generated would be for full-function vehicles and 50 percent of the credits would be from city vehicles.

So the first thing that we put up, if you could go, this is the obligation under the current program. So it starts at about 30,000 or so, ramps up to just about 40,000 over time as the multipliers phase out. This is a less steep ramp than for full-function, just because of the way the multipliers work.

The next line is our staff proposal, similar to what you've seen before, except that it starts at a higher number, just under 10,000. This is because of the fact that it includes the city vehicles.

So those base numbers are higher.
The third line says here's what it looks like if beginning in 2009, beginning in 2009 we add in the LD T2 category. We have chosen that, the number we used to approximate that is a 50 percent increase in the base. I'm sorry. It's vehicles under 8500 pounds, so that would include SUVs. LDT is vehicles under 8500 pounds. It would include most of what you think of as SUVs and the larger passenger-type vehicles.

We phase in this increase on this scenario over the four-year period of 2009 to 2012. So bit by bit, each year we add in some of that larger component due to the heavier vehicles.

So at the end of that four-year period and thereafter, that line is 50 percent higher than under the staff proposal.

Then the next line that we have is doubling, essentially doubling the staff proposal.

Again, beginning in 2009 and phasing in.

The mechanism to get beyond -- the thinking here is that the first half of that increment would be due to the fact that your base is larger, because of using the SUVs, and the second half of the increment would be to another change involving phasing down the multipliers in some, I don't have the exact numbers, but it would phase down the multipliers to get to the point where your totals are about
twice that in the staff proposal. Again, phased in over a two-year period. Excuse me, a four-year period.

CHAIRMAN LLOYD: What about the one starting in 2007, that was a suggestion I made.

MR. SHULOCK: Next slide, please.

This is what it looks like if you double the staff proposal, phase it in over a six-year period, so that it hits -- you can see that it hits the other line in 2012. So it's essentially starting two years sooner than the blue line, and phasing in over a two-year longer period. And so that's what it looks like if you -- if you make that change.

CHAIRMAN LLOYD: What that does is essentially then takes, what, 13 years to get up to the original proposal?

MR. SHULOCK: 11, I think. 12. I'm not sure exactly where it crosses, but we're beginning in 2003, and it looks like it's crossing in 2015.

BOARD MEMBER ROBERTS: But what we've lost over that time is the difference between that black line and those lines below it.

MR. SHULOCK: That is correct.

BOARD MEMBER D'ADAMO: On each of the last two, on the two times the proposal, that includes an increase in the numbers and a phase-out of the multipliers?

MR. SHULOCK: That is correct. When you say an
increase in the numbers, do you mean the heavier weight
vehicles?

BOARD MEMBER D'ADAMO: Actually what I meant was I
believe I saw a chart at some point that indicated varying
scenarios of increase beyond the overall ten percent.

MR. SHULOCK: That's built in.

BOARD MEMBER D'ADAMO: That's already built in --
MR. SHULOCK: That's built into these numbers.

That's what if you look at the line at the bottom and you
see how it ratchets up in those three-year increments that
is due to the fact that the percentages are increasing over
time.

So that's already included in what we show as the
base staff proposal.

Then if you double that, or increase it by 50
percent or you somehow do something to that, the increase in
the base percentage is already built into these numbers.

BOARD MEMBER D'ADAMO: Just to clarify then under
the last two, you're including the SUV phase-in in both;
correct?

MR. SHULOCK: That is correct.

BOARD MEMBER D'ADAMO: And under the last one, are
you phasing in in 2009 or 2007 the SUV phase-in?

MR. SHULOCK: You could do it either way. We
didn't really have -- there's no choice built into what we
did here, because all we're doing is just doubling the staff
numbers. You could decide to start at '07 or in '09 with
that particular change. I think the numbers would be the
same either way. It would affect the mix across
manufacturers.

BOARD MEMBER D'ADAMO: But the red line that you
showed envisions the SUV phase-in in 2009 or 2007?

MR. SHULOCK: I think it would be simplest to
start them both at the same time.

BOARD MEMBER D'ADAMO: Not to split hairs, but I
was just thinking of -- I guess I've been somewhat persuaded
about the three-year cycle, so just wondering if we kick in
prior to the conclusion of the second third-year cycle if we
could do so in a gradual way and if you double those
numbers, but then you phase in the SUVs in 2009 or vice
versa.

MR. KENNY: Ms. D'Adamo, actually I think we can
as part of the way that we do this, that we could do this,
is essentially that right now in terms of determining the
baselines, for example for 2003 through 2005, we're using
the baseline years of '97 to '99.

What we could do is look at the baseline years for
the '06 to '08 time frame is '00 to '02. And so what it
could potentially allow us to do is we use those '00 to '02
years for the baseline, including the SUVs in that context,
and then we can essentially can increase the numbers even in the 2007 time frame.

The difficulty there is that we have been trying to maintain the triennials. We have to depart from that a little bit within that '06 to '08 time frame, but I think with some work we may be able to figure that out.

BOARD MEMBER D'ADAMO: Mr. Chairman, would you like for me to continue with my remarks then?

CHAIRMAN LLOYD: Yes.

Maybe we can have the light back on, but maybe keep the chart there.

BOARD MEMBER D'ADAMO: I really appreciate that from the staff. That has really helped for me to visually see how we could make some changes, because I agree also with the concerns to an extent.

I did hear a theme today that a lot of people said that they were disappointed. They were a little surprised when they saw the December proposal.

And I was a bit disappointed, but I do have to say that I heard loud and clear in September that we wanted to make changes as minor as possible, that would make this program work.

And I really have to compliment staff, because we do have, I think back in September I used the accountability word over and over again that we’re not just -- we need to
feel accountable, not just to those that have come and testified, the environmental groups, public health, but we also should feel accountable to the industry, because we want to make this work.

And what I'm looking for here is a way to increase the numbers, but to do so in such a way that we're not going to receive criticism in future years that, well, this is just completely unworkable because we were fooling ourselves. We started slowly and then, boom, we did a big increase.

So looking for whatever staff can do to meld those figures in such a way that provides for a gradual increase. I like the way it looks at the end, though. I think that's great.

Just a couple of additional points.

I think this goes without saying, but based on what staff had indicated, the slow -- the ramp-up, but eventually bringing in all SUVs, I would agree with Supervisor Roberts, I think we need to end this fallacy. Until just a couple of weeks ago I was driving an SUV, so I'm part of it too. And I think that I've always treated it as a car. We take it to the snow a couple of times a year, but other than that it's basically, I use it as a car.

On plug-in hybrids, I would support moving it into
the silver category, but with a differential.

On the Sparrow motorcycle issue, I'm very torn on this. I support Mr. McKinnon's concept that it would be a good idea to bring them in, but I am concerned that if there are auto makers out there right now that weren't assuming something like that being in the mix, and they were thinking in terms of hopefully full-size EVs, I'm concerned that this may encourage them to shift their strategy over to purchasing trading credits or something of that nature.

So could staff respond to that, because I don't know if there's a way to do both.

MR. KENNY: The one thing I heard Mr. McKinnon also suggest is that we look at ways to sort of provide incentives for the Sparrow and that we bring that back to the board.

It was our original plan to come back to the board this coming June with essentially infrastructure recommendations. And one thought that I might suggest is that we use that same time frame to essentially look at the kinds of other vehicles that might be out there that we're not fully aware of at the moment and see what the full implications and consequences are of providing credit for these kinds of vehicles, looking at if we were going to provide credit, what kinds of credits would be appropriate, and then propose all of that to the board in June.
CHAIRMAN LLOYD: Mr. McKinnon.

BOARD MEMBER McKINNON: I'm comfortable with that.

Let's do that.

BOARD MEMBER D'ADAMO: Great.

And then motorcycles as well, because I would agree that that should be something we should look at.

Jumping back, kind of jumping around here, but going back to the chart, if there is phasing out of these multipliers, I'm also a bit torn on that.

I realize that there are some various configurations under the staff proposal that you can get like 40 credits for a fuel cell vehicle, and I understand that that probably should be phased down, but I don't know that I would go as far as to say phase out entirely.

Wherever staff sees that there is an opportunity to provide continued incentives, and I would favor even rewarding companies that have made the investments in the technologies. So I would leave that up to staff as far as the specifics, however.

And then the last thing I'd like to bring up is I asked Ms. Walsh to do some research on the issue that we spoke about earlier regarding the state fleet rules. I feel very strongly about this. We need to, as Supervisor Patrick indicated, we need to put our money where our mouths are, and we need to be held accountable as well on this issue.
So I would like to see staff come back on the issue of the state fleet rules. There actually is a provision in statute right now, Health and Safety Code 43018, that actually requires this very body to adopt standards and regulations that would require the purchase of low emission vehicles by state fleet operators.

However, as Ms. Walsh pointed out, the definition of low emission vehicles is somewhat antiquated and perhaps could use updating.

So whether we pursue this by way of strengthening the Executive Order, working out some type of agreement with General Services or perhaps even suggesting a legislative fix, I would like to see that we pursue that.

If staff could come back in short order, I'm hopeful that we could reach the next budget and/or legislative cycle or even the current.

I would really like to compliment the chairman for his handling of the hearing and thank the witnesses for bearing with us here to the bitter end.

I think that this is a little bit sick that I'd be admitting to this, but I'm kind of sorry that we won't be doing these hearings, because in a sort of demented way I've really enjoyed this issue.

And I just hope that the passion that those of you in the audience feel for this issue, that you will continue
it in local municipalities and before local governing boards
so that you can get ordinances adopted and spread the word
and just great work. Keep at it.

CHAIRMAN LLOYD: Thank you.

Dr. Burke.

BOARD MEMBER BURKE: Ms. D'Adamo, I think it's
something they put in the food, because I've got to admit,
that I got a little groggy about 2:00 o'clock, but right now
I feel like they plugged me into electricity, because I'm
amped and I'm ready to go.

I was particularly touched when the gentleman
passed around the picture of his son. I wish you could have
all seen it. He's really a good looking lad.

And on this board there are people who are a lot
smarter than I am, but I can tell this father this one thing
that I can do that nobody else on this other board can do.
I'm the only one on this board with only one lung. I'm the
only one on this board with a diminishing capacity in the
other lung.

Therefore, I know what his son goes through.

Two years ago when I really got sick, going to the
bathroom from my bed was a two-stop trip.

I'm a formerly nationally ranked tennis player. I
was a track star in high school. So I was not used to
having my mobility limited.
And let me tell you, my staff assistant told me the other day when we were getting off an airplane someplace, she said, you know, two years ago you had to stop at the top of the ramp and sit down and rest for ten or 15 minutes getting off an airplane.

Well, I'm obviously getting stronger, and I know that that gentleman's son is going to get stronger too. It just takes time and patience.

Mr. Freeman, who testified today, is a friend of mine, and when I say a friend of mine I don't mean an associate. I mean he's a friend of mine.

And David is viewed now as a somewhat of a guru and a genius in the electric business, where about 12 months ago the city council of Los Angeles was all over him like old clothes, and forcing him to do things that he didn't want to do, and he stood up and he fought them and he fought them tooth and nail and with great integrity, and he won.

And now those same people who are trying to do him in last year, are trying to take the credit this year.

When David said he wanted to -- he looks at night in the mirror to -- and he wants to be proud of his image, and I was reminded that President Samuel Adams, when he said when he looked into the mirror at night, he saw the sum total of all his ancestors that went before him, because you are the product of your parents and your grandparents and
your great-grandparents and all those who went before you,
and everybody on this board is this the sum total of all
those experiences.

So I don't want anybody to get confused, but when
they see Matt and I going at it, Matt is going after the
good thing and so am I, and when we walk away from here, he
and I are buddies.

So I want everybody to understand that.

Now, in the plan we talked to Supervisor
DeSaulnier talked about marketing.

Now, I'll tell you, CARB is great at writing
regulations and figuring out the scientific position that we
need to be in.

I'm not so sure how they are at marketing.

I think I agree with Ms. D'Adamo that if we're
going to get into the marketing business, we need to do it
with some kind of mandate.

And, you know, I'm -- I would -- I really support
her initiative to bring state vehicles into the program, but
I would like you to look at the possibility of a statewide
initiative like we did, the 1100 series, to bring some
segment of government across the state into this program,
keeping in mind Matt's concern about the availability of
consumer vehicles being also available, because I think that
that's very important.
And I did the same thing as she did when SUVs came out. My accountant came to me and said they're a hundred percent tax deductible. Give me the biggest one you can get me. You know. And I did that until I found out what they did to the environment.

And the first conversation, the very first conversation I had with our chairman, was, you know, we ought to do something about these SUVs, because they're selling 10,000 of these things a month in California. And I don't to hurt commerce and I don't want to stop business, but if you introduce 10,000 of anything that's polluting in this state, at the rate they are, we got a problem.

So some way we have to put them in conformity with other vehicles, so that that's under control.

The three-wheel vehicles, let me share with you a conversation that I had in Cambridge University about a year and a half ago with Dr. Ballard, who invented the fuel cell. He looked across the coffee table at me and he said, look, if you think two other guys and I sit around a coffee table one night and designed the technology that was going to cure the energy process for the entire world, you got to be out of your mind. He said the fuel cell is a step in this progress. He said there are probably around 30,000 people who work eight hours a day trying to solve this
problem. He said they're thinking of something that you and I don't even know about right now that's going to solve it.

Now, I understand the concern about the big three auto manufacturers and simulated motor scooters or motorcycles, but I do have pizza delivered to my house, and it is delivered in a car that is belching and -- because it's somebody who is working for minimum wage, whose job includes the utilization of his own car to deliver this product.

Now, I'm not going to use environmental justice to get -- but you know, you know where this happens.

And I, quite frankly, would urge my two colleagues who have spoken with some concern of this and Matt to just think a little bit more about putting this in now, because I think this is a little teeny tiny way that we can show those people in those communities which see those cars pulling up in front of their house, that there is another alternative.

Now, I got to tell you, this, first of all, Mr. Corbin, it was nice meeting you, because it's nice meeting a guy that has $5 million and can put it in his own project.

But there's other Mr. Corbins out there, and they're not Ballard and they're not General Motors or Ford or Chrysler Daimler, and I want to encourage those people, because we never know what man or woman is going to walk in
with a real cure to this problem.

    My last -- I only have two more points. I'll make
this as quick as possible.

Seven years ago South Coast decided to issue
credits, we entered into the reclaim program. One of the
biggest mistakes I ever made in my life was when I voted for
reclaim, I didn't run out and buy a ton of reclaimed
credits. Because let me tell you, it will make dot-com look
like peanuts if you had bought some South Coast Air Quality
Management credits in those days and tried to sell them now.

    So I've been -- we bifurcated it last Friday. I
don't know if you know about it. We put out a resolution so
that the smog -- these power companies and these refineries
are just killing the little small guys because they're
paying whatever it costs to buy these credits.

    My idea was to have South Coast sell the credits
and let us make the money.

    They pushed pawed that, because we're a
not-for-profit corporation.

    But I think that we have, if we're going into the
credit selling business, we have to figure out a way so that
these people who are coming along, who we are trying to
encourage, who are not part of the big automotive
manufacturing group and part of the big money operation
can still operate and get credits and do all the things that
are necessary.

My last point is, I'm sorry that Supervisor
DeSaulnier had to leave. I did appreciate his remarks about
outreach. I don't think it should be in this issue.

I think it's a bifurcated issue all together and
it's something that we as a board have to deal with on our
own, on its own merit.

But it is something that I think that we are going
to have to press, because this is new technology. This is a
new way of living. This is new information and we're going
to have to find the money.

If the assemblymen come over here and they want
this to really happen, we had the chairman of the Budget
Committee of the Assembly here telling me we need the money,
and I'm willing to go with Matt and Mr. Kenny and the
chairman and whoever else wants to go with me and go over
there and talk to him, get on my knees if necessary, because
everybody, whether they're black or white or brown or
yellow, needs to know how important all these things are.

And as much money as all these automotive
companies spend marketing their product, we should be able
to find a few dollars to market ours.

That concludes my comments, Mr. Chairman.

CHAIRMAN LLOYD: Thank you, Dr. Burke.

Mr. Calhoun.
BOARD MEMBER CALHOUN: Thank you, Chairman Lloyd.

We've heard a lot of good testimony today, and I include the staff's report as part of that.

I think there's no question but what the staff proposal is intended to say the original objectives are of the mandate, something that was obviously not going to work as proposed.

The staff proposal, as I see it, provides manufacturers with a lot of flexibility, and it encourages the one thing that I have very strong feelings about, and that is about technology development and pushing that, which is the one thing that I support.

I am bothered by the fact that there is still a sales mandate included in here.

Now, Mrs. Riordan mentioned something a few moments ago about the staff has access to confidential material.

I think the staff proposal was based on what they know to be the true status of the technology, at least what they perceive to be the true status of the technology. They have access to a lot of confidential information that isn't shared with this board. That's just part of the routine.

So we have to keep that in mind as we go about making all these tweaks and changes.

I'm concerned about what impact some of these
changes we've suggested, some of them I don't have any problem with because I know they work, but the idea of increasing the volume in the out years, we don't really know what the true status of the technology is going to be at that time, and I'm not so sure that it may be a little premature at this time to say we want to raise the volume by 50 percent of whatever the staff proposed.

I do believe the staff should continue to do what it has done for many many years, and that is to follow the status of all these projects, and if they see a problem emerging, to come back to this board. I think the staff has been very good at that, and I would certainly encourage them to continue doing that.

And we've talked about eliminating the biannual review. That's fine. I don't have any problem with that, but I certainly want something coming back to this board on a periodic basis that will tell us about the true status of these -- of the technology.

And as I said before, I'm worried about the impact of some of these changes, and if we do make any changes here tonight, whenever we finish this, they will obviously go out for 15-day notice, and we'll have comments, and I suppose that if there is a problem that needs to be resolved that emerges from these comments, that they will either be -- this will be brought back to the board or the changes will...
be made and published again.

That concludes my comments Mr. Chairman.

CHAIRMAN LLOYD: Thank you Mr. Calhoun.

I had a few additional comments here to staff.

Putting up the chart that you put up, I'm also --

I get, I guess I have to weigh my responsibilities and my desires. I get depressed when I look at that chart compared to where we were.

I also listened to Mr. Freeman as well, and say are we doing the best we can.

I listened to the investment community and the desires to put money into these technologies and are we in fact -- do we have enough pull to really influence that?

On the other hand, I can clearly see that we have to be very careful in the early years with what we are trying to accomplish. I know the auto companies, we worked very hard on that, and so I don't want to look at those areas and recognize that those are the early years are going to be critical. And I think as Mr. Shulock has used his analogies, we don't want to force feed those too early.

But I must admit when I get back and see those numbers, and I am worried are we in fact just promulgating something at a pedestrian pace and we're not going to accomplish what we would like to desire in the later years.

I also think that as we say clean air, health for
all citizens, that's our major part there, and obviously also to keep the economic growth going very strongly.

I just wonder also has staff underestimated the fact that we are going in many areas through technological innovations and the pace of that is increasing. I recognize this is not as simple. But I also feel that as we heard several times today in the study that we're doing with Alec Brookes and Tim Gage and Tim Lipman there that we're beginning to scratch the surface of the interrelationship of the stationary and the mobile sources.

Part of our issue with California and electricity shortage is we don't have a mechanism to store electricity. What we're trying to promote here is devices and technologies which will help us store that electricity to help us in both of those.

So I think the more I hear about and knowing a little bit about the fuel cell community how in fact cost factor is being addressed to both the stationary and the mobile side.

And also the transfer of information technology and transformation of technology worldwide, and as I look out to we're looking at 2015 and we're not even to where we were before, I really worry that we are not going to be the leaders. We may be the followers. So what are we doing in that case.
But as I said before, I also realize staff has worked very hard, so I don't want to feel that we have to be very very careful in the early years, otherwise we're not going to get the success.

And I also realize the eliminations of the technology there.

So what I would like to see again, even on those numbers there, if in fact we could go back to maybe what I was originally suggesting is looking at maybe what Professor Frank was saying, look at a number that we're trying to look at there, and then work backwards from there, because what staff has done is so complicated, I don't think any of us can understand what's going on and I think the number I threw out earlier, can we double what you propose by 2012, because I also realize that while you say 2012, I am also not naive enough to think you can't just ramp that up. So that's why I was talking about 2007 time frame, because I believe staff, and in talking with some of the auto companies, I understand their desires in those early years.

But then talking to Kelly Brown, he's saying, well, after 2005, they don't really know, they don't have plans. And we don't know, and I agree with that part of it.

But if we are to do anything there in terms of providing the impetus, providing the investment community, providing some of the people within these companies, some of
the driving forces there, and we heard Ben Knight from Honda
talking about limited resources and what not, so I
understand that part. So in those early years I think
that's a critical portion.

And I think maybe that's maybe where our
environmental friends, their desires there, I think I've
come to see that in this case the desires if we push that
too hard we'll end up with nothing.

So but again when I look at that, and it's I would
like to see if we could certainly increase those by the 2012
time period.

I also think if you could look at the relationship
between the fuel cells and the battery electric vehicles, so
that maybe we try to look at the numbers there and see what
that does also, that's another opportunity to improve
things.

I would also concur, I think, with Supervisor
Roberts when you initially say we shouldn't look backwards
as to what's out there. I think that's something that I
know that staff had worked heavily on in one of the
proposals there.

And I said earlier, I think we also recognize in
the desires here, and if we are going to try to increase the
numbers to provide some additional flexibility in terms of
some of the other buses, maybe, if we can -- I don't know
that there are any zero emission trucks out there, but those who would be appropriate, and I would like to ask staff to look at what the appropriate credits may be in those cases, how they may be treated.

I'm also torn on the issue of the Sparrow type vehicle, because on the one hand I'm very compelled that this is a vehicle that is now operating, it is creating jobs in California, but I guess I'm comfortable because I heard Mr. McKinnon say that, that this is something which we should explore, but to take advantage of the staff coming back to us in June, that part of it.

Although I understand Dr. Burke too, and I wouldn't be unhappy with that as well. I thought maybe this is what I feel in this case and what I heard from staff that -- well, I guess the analogy we used the other day, or staff used the other day, that if we let in the Sparrow, we want to know what else comes through the door. So this is the type of thing we need to fully understand before we do that.

I think those are the key issues that I would see in that part of it.

Yes, Professor Friedman.

BOARD MEMBER C.H. FRIEDMAN: I just had a question that was triggered by your comment.

Is there any particular reason why we wouldn't
incentivize and give credits in future years, not mandate, but give credits for pickup trucks, vans, whatever is not now covered that are PZEV or ZEV or --

MR. KENNY: Actually right now we do give credit for light-duty pickup trucks, but what I was hearing the board say was essentially that if we do have heavy-duty trucks, heavy-duty buses, if we have medium-duty vans, things like that --

BOARD MEMBER C.H. FRIEDMAN: We do not now give credit?

MR. KENNY: Which we do not now give credit for, we should actually look at providing credit for those in this context.

BOARD MEMBER BURKE: Mr. Chairman.

CHAIRMAN LLOYD: Yes, Dr. Burke.

BOARD MEMBER BURKE: Could you ask the staff to clarify, when you say if you let the Sparrow in what comes through the door next, what does that mean?

CHAIRMAN LLOYD: I think the issue was is they wanted to assess, if you look at this category of the freeway compatible three-wheeler thing, are there any other manufacturers out there which could qualify or look at the implication. That wasn't meant in a negative sense. It was to try to understand, yes, that was it.

In that way then you could look at maybe what the
appropriate credits may be, what's going on. So, as I say,
that was maybe I was bit flippant on that. That was not
intended in this case, because I think we had discussed
that.

Mr. Kenny.

MR. KENNY: If I could, actually I made a mistake
in my last response to Professor Friedman. In fact under
the existing proposals, we do provide credits up to 14,000
pounds. We do not currently provide credits above 14,000
pounds. But as I understood the board's direction, we would
look at providing credits for those.

BOARD MEMBER C.H. FRIEDMAN: If it's an airplane,
we're not --

MR. KENNY: I don't think we'll go there.

CHAIRMAN LLOYD: I think the other thing, I should
comment on that, when we're talking about credits and what
not, I heard some of the discussion on the neighborhood
electric vehicles, and I think we have some concerns on
those, but on the other hand I do feel that we've been
talking with the manufacturers, and I am concerned the same
way as I was concerned otherwise about increasing the
numbers, that if we play around those early years too much,
that we may upset some of the balance that the staff has
tried to create there and that they are obviously privy to
some of the stuff with the manufacturers that we may not
know.

So I'm a bit uncomfortable about what, as I say, in the early years, I'm also uncomfortable about the later years, but for different reasons.

Supervisor Roberts.

BOARD MEMBER ROBERTS: Yeah, Mr. Chairman, would the staff just review their recommendation on the neighborhood vehicles and how that phases out?

MR. KENNY: On neighborhood vehicles, for neighborhood vehicles that are provided before 2003, they actually do get four credits. They have multiple credits associated with them in order to get vehicles into the marketplace quickly.

In 2003, the credit number, I believe, is one, and then basically phases down to .15 in 2006.

BOARD MEMBER ROBERTS: Stays flat?

MR. KENNY: It stays flat at .15. And our thought on that was that we did think that in fact the vehicles, if they went into the marketplace, do displace gasoline DMT, and so they had some value.

And we thought it was important to provide some level of credit for them on a flat basis and then what we thought we would do is essentially see what the market actually does with the vehicles and then go from there.

CHAIRMAN LLOYD: Any other comments on my
colleagues before --

BOARD MEMBER C.H. FRIEDMAN: I'm wondering how we can bring this to resolution. I hear a fairly strong consensus that we try to increase the so-called out years after the first two three-year periods. So commencing somewhere in that range, and that we take into account in some fashion the -- apply the percentages in some fashion to SUVs as well as to passenger vehicles, is there some way that we could pin that down or can we leave it to staff to --

CHAIRMAN LLOYD: Well, I think I'd like to take the approach, well, the timing I think might leave a little bit to them --

BOARD MEMBER C.H. FRIEDMAN: Because they know what the advance planning is and what the impacts --

CHAIRMAN LLOYD: Although I would like, I think, Supervisor Roberts there, I'd like to look at the 2007-2008 time frame to start that off, because if we're going to get up there, we need that ramp, but let staff look at that.

BOARD MEMBER C.H. FRIEDMAN: Your goal was, as you stated it, to be doubled by 2012?

CHAIRMAN LLOYD: At least doubled by 2012 because it gets us closer to that. Again, I don't think it's where -- this is one where I say my desires and responsibilities part company, but I know I'm here to do a
job, and I'm here to represent the state and be responsible, so we make this work.

And this is a case where we fall into nobody is going to be really happy, but clearly if we're too aggressive, we're not going to have a successful program.

If we're not sufficiently aggressive, as I think we are now, we need to increase it, we're not going to get the draw of the investment communities for all these advanced technologies and some of the technologies are not going to need the incentives.

BOARD MEMBER C.H. FRIEDMAN: If there are serious concerns or problems with doing this sort of thing, that you may not be aware of now, we don't hear about those in the 15-day comment period.

MR. KENNY: Just one clarifying point, when we look at essentially doubling by '12, what I was taking from that was a doubling of the '09 number, which was essentially the kind of the higher number that we had in that time frame, and then with a ramp essentially beginning in potentially '07 as a way of getting there, and I think with that resulted in by '012 was close to 15,000 vehicles as opposed to what the current staff proposal was, which is roughly a little bit over 7,000 vehicles.

CHAIRMAN LLOYD: And the former staff proposal was 40,000.
MR. KENNY: Excuse me.

CHAIRMAN LLOYD: So we're coming up with 15?

MR. KENNY: If we double the number -- if we double the '09 number, which right now is approximately 7300, we would be at --

CHAIRMAN LLOYD: Double that by 2012?

MR. KENNY: -- 14,600.

By 2012, that's what -- that's what I wanted to clarify what the board direction is.

CHAIRMAN LLOYD: Could you also look at the number where you come up to 20,000, which will be half of what was there before?

MR. KENNY: We can look at all these different -- yes, we can.

CHAIRMAN LLOYD: Yes.

BOARD MEMBER McKINNON: I'm having trouble with the process here.

Are we going to come to a conclusion tonight about these numbers and vote on them, or are we doing some other process?

CHAIRMAN LLOYD: I see where you're getting. We should try to pin the number down.

Is that what you're --

BOARD MEMBER McKINNON: Yeah. That's my sense.

BOARD MEMBER D'ADAMO: I'm a little confused about
the numbers that staff was referring to.

Mr. Kenny, doubling, are you going back to the -- to the previous numbers that didn't account for the mix?

MR. KENNY: No. What I was doing was actually looking at the existing staff proposal that was before the board today and in terms of full-function equivalent vehicles, right now what we are proposing to the board was roughly 4600 vehicles in the time frame of '03 through '05.

And then when we get to the '06 through '08 time frame, that number increased to roughly 5800 vehicles, and then when we went to the '09 through '011 time frame, that number increased to, I believe, 7300 vehicles.

And so what I thought I heard the board say was to essentially double that number, and I was taking that number as being the '09 number, and so I was taking that 7300 and I was taking that up to 14,600 by '012 and the ramp for that to occur beginning in roughly '07.

And so what that would have meant is that the existing '06 number is 5800 and then we're going from 5800, and those full-function electric vehicle equivalents, so it's 5800 in '06 and then we are heading toward 14,600 in '012.

BOARD MEMBER D'ADAMO: I guess my problem is, and maybe because it's late and I'm not very good at math, but can you go through that same process with the mix? The
purple number, which is higher than the figures that you just went through, because it accounts for a mix that is likely to occur.

MR. KENNY: Maybe.

CHAIRMAN LLOYD: I think, maybe one other simplification that Mrs. Riordan was suggesting would be to adopt Professor Frank's suggestion that maybe we should set a number in a year and let staff work out how you get there.

BOARD MEMBER RIORDAN: Leave that to them. We just say, you know, 2014, here's where we want to be, staff put it together how we ramp-up to that point.

BOARD MEMBER C.H. FRIEDMAN: Could I just think about it a different way.

The original revised mandate that we were considering, and staff is proposing be changed today, called for about 22,000 full zero emission vehicles at the start year. It then went on up.

That 22,000 has been reduced to by about 75 percent, so we're looking at about 25 percent or a little less for the first three years, 4800, 4760, whatever that number is, instead of 21 to 22 thousand.

I think what I was hearing the chairman say, and what I thought in my own mind, and I don't want to ascribe this to anyone else, I was thinking, you know, we ought to try and at least reach 50 percent of our old goal sooner
than 2018 or 2020 or whatever.

When we start with at a quarter of it, but can we
attain at least half of that goal, a full -- just in terms
of full -- I know that there will be a lot more vehicles,
many more, if they're getting partial credits instead of
full early introduction of other credits and so -- but this
would be the minimum number of vehicles that are full range.

So the question is, and I don't have any strong
feeling for when it should be for myself, but I think it
ought to at least get -- we ought to move from a quarter
base up to attain half of what we would have been sooner.

MR. KENNY: I think we can do that. I mean I
think what ends up happening in the scenario is just
describing what the full-function equivalent vehicle -- we
are probably at that halfway point, probably somewhere
around 2010, and that's an estimate at the moment.

The other thing essentially is in response to
Ms. D'Adamo's question, if I put it into a combination of
full-function vehicles and city cars, then what we do is the
ramp essentially would go from roughly 11,600 vehicles in
2006 to roughly 29,200 vehicles in 2012.

So depending on how you look at the mix of
vehicles that we utilize here, the numbers can either be
smaller or larger.

And we are anticipating that in fact we will see
probably that mix of vehicles which will result in the larger numbers as opposed to the smaller numbers.

CHAIRMAN LLOYD: Supervisor Roberts, then Mr. Calhoun.

BOARD MEMBER ROBERTS: Mr. Chairman, I thought we had a red line that was up there a little while ago that's disappeared.

CHAIRMAN LLOYD: I guess they don't like the red line.

BOARD MEMBER ROBERTS: That looks like it reaches the halfway point in I guess 2009, if I'm reading that right, but why -- there was a set of assumptions that went into causing that to happen that I feel very comfortable with. Why can't we just do that?

CHAIRMAN LLOYD: Any reason?

MR. KENNY: I think we can basically follow that red line.

The only, I guess, qualifier would be essentially the 2007 number. It probably should work fairly effectively, but one request I guess we would have is that as we look at the 2007 number when that ramp initially begins, making sure that it actually starts off upward in kind of a viable fashion, but I think that ramp may actually work quite effectively.

CHAIRMAN LLOYD: Useful target.
Yes, Mr. Calhoun.

BOARD MEMBER CALHOUN: Mr. Chairman, I think here at the board we are trying to redesign a program sitting here and a lot of effort has gone into what the staff has done. And it bothers me that we're pulling these numbers out of the wild blue yonder and throwing them out without really knowing what the impact they will have. And --

CHAIRMAN LLOYD: I don't think we're pulling them out of the blue. We're already a quarter of where we were before, and we have some basis for that, but I don't say -- there is some rationale. We've sat through a lot of these discussions. I've heard stuff today, so I don't think they're out of the blue.

I understand where you may be coming from, but I don't think -- I think there's more behind that.

BOARD MEMBER McKINNON: On Joe's point, I think we all we don't have a crystal ball, and I agree with you to that extent.

The thing that bothered me until we started working on this is we've heard about economies of scale and producing these vehicles over and over and over and over again. And when we dropped the numbers so low our odds of failure came back and so, you know, I'm really much more comfortable ramping up.

CHAIRMAN LLOYD: But in the time period we're
talking about, so we preserve those early years, so we're
trying to maximize ability to work with the companies, we're
going to help them sell the vehicles, we're going to look at
that.

Good.

BOARD MEMBER C.H. FRIEDMAN: So for what it's
worth, that's my thinking on it.

I'm concerned about the low volume and the
absorption of the costs, but again I assume that we'll be
getting updates, we'll be getting reports and obviously
recognizing we don't have a crystal ball, without having
specific periods for review, if there's a problem I'm sure
we'll hear about it.

CHAIRMAN LLOYD: Again, that's the only reason
that makes me comfortable there is knowing the staff that if
we come back in several years' time and things aren't going
the way we expect, we'll all know that, and staff will come
back to us.

I think Ms. D'Adamo had --

BOARD MEMBER D'ADAMO: Just to articulate what I
believe to be emerging as a consensus then, that pretty much
going with the red line, which would be doubling the staff
proposal, with the phase-in beginning in 2007, but keeping
in mind what Mr. Calhoun had raised that the staff would
have the discretion to make appropriate changes, based upon
some confidential communications that they may have had regarding business plans of the various auto makers.

CHAIRMAN LLOYD: I agree with that, although I did hear one auto manufacturer say today that basically after 2005 they don't know any more than we do.

Can we -- maybe that's --

BOARD MEMBER BURKE: Make that as a motion.

CHAIRMAN LLOYD: First of all, before we get to motions, and I think we're ready to get to that point, we've got the ex parte, and I know we have quite a few ex parte communications here, so maybe I can start at the right, come back down and start to the left here.

So Supervisor Roberts.

BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

I do have a few communications to report.

On January 3rd of this year, along with our ombudsperson, we met with Mr. Ben Knight, Mr. Yasuoka and Mr. Ben Knight from Honda.

On January 22nd of this year, I met with Eric Bullby, who represented the local chapter of the Sierra Club. On local San Diego, that is.

On January 22nd, later that day, I met, along with Professor Friedman, we met with Steven Kukucha, I believe it is, from Ballard, along with Larry Berg, who accompanied him to that meeting.
And then finally on January 24th I met with Bob White, Reginald Modlin, Raymond Batakaholy, and I'll give you the spelling of these, and Al Weaverstad. The later two from General Motors, and the second of that group from DaimlerChrysler.

Those are all the ex parte communications that I've had.

CHAIRMAN LLOYD: Thank you.

Mr. McKinnon.


I also that day, quite to all of our surprise, ended up meeting with the Automotive Alliance. And Steve Douglas from the Alliance was there, Dave Rainey from Honda, Al Weaverstad from GM, Reg Modlin from DaimlerChrysler, Kelly Brown and Melanie Wiegner from Ford, were there.

And most of all of that discussion was about the transit issue.

On Monday, January 22nd, I met with the ZEV Alliance, Bonnie Homes-Gen, and with the Lung Association, Sandy Spelliscy with the Planning Conservation League, Roland Hwang with National Resources Defense Council, Jason Mark with the Union of Concerned Scientists, and Susan Frank with the Kirsch Foundation.

Few hours later I met with the California Electric
Transportation Coalition, Cece Martin.

Enid Joffe with the Clean Fuel Connection.

And Scott Briasco with LA Department of Water and Power.

Yesterday I had a teleconference call with the Production EV Drivers Coalition, Greg Hanssen and Bill Mason.

I also had a meeting with Kathy Van Osten, representing the American Methanol Institute. And Tony Massaro representing Methanex.

Also had a very brief conversation again yesterday with Kelly Brown on the transit issue.

That, I hope I got everybody. I think that's it.

CHAIRMAN LLOYD: Ms. D'Adamo.


On the 22nd, in Sacramento, met with Roland Hwang with Natural Resources Defense Council; Susan Frank with the Kirsch Foundation; Bonnie Holmes-Gen, American Lung Association; Kevin Finney, Coalition for Clean Air; Jason Mark, Union of Concerned Scientists; Sandra Spelliscy, Planning and Conservation League.

On that same day, the 22nd of January, met with Cece Martin, California Electric Transportation Coalition;
Scott Briasco with the LA Department of Water and Power; and
Enid Joffe with the Clean Fuel Connection.

Also on that day, the 22nd of January, had a
telephone call with Alec Brooks, AC Propulsion.

And then today had a brief discussion with Tony
Massaro with Rocky Mountain Environmental Strategies.

That's it. Thank you.

CHAIRMAN LLOYD: Professor Friedman.

BOARD MEMBER C.H. FRIEDMAN: I've had a series of
phone conversations with Philip Recht, the attorney
representing General Motors, on January 16, January 22, and
January 23.

I will comment on the substance of all these in a
moment.

I had a meeting with the ZEV Alliance, Bonnie
Holmes, American Lung Association; and Sandy Spelliscy of
Planning and Conservation League on January 17th in
Sacramento.

I met with Cecile Martin of Cal ETC on the 17th,
also in Sacramento.

I visited the Ovonics UC Davis Electric Hybrid
Lab, Ben Ovshinsky, and Professor Andrew Frank on January
17th. The topic was plug-in hybrids, essentially.

I met with Kelly Brown, of Ford.

I'm sorry, I had a phone conversation with Kelly
Brown in Florida on January 22nd.

Also on that conference call was Melanie Wiegner. And I had a conversation, phone conference, with the Production Vehicles Drivers Coalition, namely Greg Hanssen and Bill Mason, on January 16th.

And the Ballard Power System, Steve Kukucha and Ballard, and Larry Berg of Larry Berg and Associates, met with Supervisor Roberts in his office, as he reported on January 22nd. The topic there was fuel cell technology. And I had conversation by phone with Melanie McCutcheon of the Environmental Health Coalition on January 23rd.

On January 24th, I had a telephone conversation with Mickey Cantor for General Motors.

And on the 23rd -- I missed one, two days ago, or so, I had a telephone call from Kirk Marckwald, California Environmental Associates of San Francisco, and attorney George Kiefer of Mannett Phelps and Philips for Toyota.

And the environmental contacts all had to do with concerns that were expressed here repeatedly. And the context from General Motors, Toyota and the others all had to do with matters that were presented in abundance here today.

That concludes my contact.

CHAIRMAN LLOYD: Met with Ben Knight and Aki
Yasuoka and others from Honda on January the 5th in the Hyatt. Ben Knight, January 16th in Detroit.

Ben Knight and Aki Yasuoka again January the 19th in the office here.

And Ben Knight, phone call on 23rd.

All of these focusing on the combining ZEV and advanced technology categories and looking at a point system for fuel cell development.

January 16th in Detroit, Reg Modlin from DaimlerChrysler. Difficulty meeting the mandate and the traveling issue.

January 7th, a meeting with Kirk Marckwald on behalf of Toyota, looking at hybrid electric vehicle credits, and a meeting on January the 18th to discuss hybrid electric vehicles and independent technology review.

January 19th in my office meeting with Kelly Brown and Melanie Wiegner of Ford, MOA traveling issue and the ability to comply with the staff proposal.

On December the 14th in the office, Larry Berg and Steve Kukucha from Ballard, market reaction to staff report, issued December the 8th.

Firoz Razul, Paul Lancaster, Steve Kukucha, January 17th in Detroit, a meeting, effective ZEV mandate on fuel cell investment technology and the status of fuel cell technology to meet the ZEV category.

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Two phone calls with Larry Berg on the 22nd and 23rd, and also 24th to look at ZEVs and fuel cell vehicles.

Dan Kelly, meeting in Detroit with IFC to talk about the ZEV mandate and all the fuel cells.

January 9th, a meeting with Avestor, Roger Paradis, and Tadek Borys, and that was talk about lithium polymer battery developments and battery leasing ideas.

And then a meeting with John Dunning of Battery MD and Mr. Bayraktor from Aerovironment, and Edward Riddell of Sierra Transportation. This was on January 10th. This was the ride and drive with the modified Think vehicle.

Discussion on phone on January 8th and 18th, Bob Rose, Breakthrough Technology, to talk about the relationship between ZEVs and fuel cell vehicles.

January 23rd, telephone conversation with Greg Hanssen, Bill Mason on EV Drivers Coalition, and the drivers' support for the mandate.

Meeting, January 10th in Sacramento with the Enviro ZEV Alliance, Bonnie Holmes-Gen, Sandy Spelliscy, Roland Hwang, Jason Mark, Janet Hathaway, Kevin Finney, John White and Jason Mark. More discussion there to push for more ZEVs in 2003, faster ramp-up and restoration of the pure ZEV category.

January 18th in my office, Cece Martin, Scott
Briasco of the California Electric Transportation Coalition.

More ZEVs, faster ramp-up.

   Phone call, January the 18th with P. John White,
   the Sierra Club position on ZEVs.

   Discussion on the phone on the 22nd and 23rd with
   Curtis Moore, the Global Alliance, historical perspective,
   need for technology forcing regulations.

   And a meeting on January 24th to talk about fuel
   cells, energy efficiency and global climate change impacts.

   January 3rd, a meeting with Dr. Art Rosenfeld,
   California Energy Commission, role of hybrids in meeting
   California energy and environmental needs.

   And, lastly, a meeting yesterday, January 24th,
   with hydrogen industry with Paul Staples, James Provenzano,
   both of Hygen.

   And Hac Carlson of Hamilton Sun Strand, talking
   about fueling infrastructure for hydrogen fuel cell vehicles
   and pure ZEV components of the mandate in California.

BOARD MEMBER RIORDAN: Mr. Chairman, I received a

   telephone call from Enid Joffe on January 23rd, and that
   conversation is mirrored in her testimony today.

   On January 24th, I met with the Alliance of
   Automotive Manufacturers, Steven Douglas, Robert Cassidy
   from Nissan, Weaverstad from GM and Reginald Modlin from
   DaimlerChrysler. Their issues were primarily that of the
traveling issue, of our regulation to other states in the East.

I met also with Tony Massaro from Rocky Mountain Environmental Strategies, and Kathleen Van Osten from Rose Kindel. Basically stating their support of the staff recommendation.

Those are the only communications I've had.

CHAIRMAN LLOYD: Thank you.

BOARD MEMBER BURKE: Mr. Chairman, I instructed my staff assistant I didn't want to talk to anybody on this and if they couldn't write me a letter or talk to her, I didn't want to know about it. She did an excellent job and she only let two slip through.

So I only have two ex parte communications to report, and they're both telephone conversations.

One is with Denny Minano, and his conversation was about the ZEV mandate. It was just a general conversation and nothing really specific.

And the other one -- that was on 1-17.

And on 1-18, I had a call from Tom Soto, who asked me if I talked to Denny Minano, and his conversation was generally about the ZEV mandate and really nothing that wasn't mirrored in their testimony today.

BOARD MEMBER CALHOUN: Mr. Chairman, members of the board, on the 12th of December I had a meeting with Tom
Soto and Mr. Huffman of PS Enterprise, and they were concerned about environmental justice, and a lot of that has come out here today.

And the next date was the 24th of December, which was yesterday.

CHAIRMAN LLOYD: January.

BOARD MEMBER CALHOUN: Yesterday, I went out to UC Davis and met and toured the lab that Professor Frank is in charge of, and he talked to me about increasing the volume, and the same with his testimony today.

And later I met with on the same day, Kathleen Van Osten, and Tony Massaro. Kathleen Van Osten is from the Rose and Kindel, and the Rocky Mountain Environmental Strategies, Tony Massaro. And they were supportive of the staff recommendation, but they also suggested that they'd like to see more emphasis placed on fuel diversity. Their primary focus is methanol.

And last evening I had a brief telephone conversation with Ray Buttacavoli from General Motors, alerting me about some of the issues and concerns that General Motors had.

That's the extent of my ex parte.

CHAIRMAN LLOYD: Also, I forgot, I also had a meeting with Kathy Van Osten and Tony Massaro on the same topic, and they're all methanol fuel cells, and that was in
the office yesterday. It was yesterday.

Thanks for reminding me of that.

Supervisor Patrick.

BOARD MEMBER PATRICK: I had a very brief discussion with Charles Sant'Agata from the American Lung Association of Central California, and he talked about the current proposal from staff. He felt that it fell short of our mandate, and that he hoped that I would not go along with staff's recommendation.

CHAIRMAN LLOYD: Thank you.

BOARD MEMBER D'ADAMO: Mr. Chairman, I failed to state on the record that of the ex parte communications that I had there, the contexts of the communications basically mirrored the testimony that was presented by those individuals today.

CHAIRMAN LLOYD: Same thing, yes.

BOARD MEMBER McKINNON: Same for me.

And I knew I neglected some people. I have three more.

CHAIRMAN LLOYD: Okay.

BOARD MEMBER McKINNON: Sorry. Kevin Finney was with the ZEV Alliance when we met on the 18th.

On the 17th I had a telephone conversation with Darius Anderson, again pretty much what he stated, the GM position, and asked me to meet with the Automotive Alliance.
And then late this afternoon I met Tom Corbin for the first time, and we had a little chat about the Sparrow. That's the first time we've ever met, which is remarkable. So that's it.

CHAIRMAN LLOYD: Ms. Walsh, I've also got something from Supervisor DeSaulnier, but since he's not voting, I presume it's not a problem.

MS. WALSH: Right. We can just put that in the record.

CHAIRMAN LLOYD: Thank you.

BOARD MEMBER ROBERTS: Mr. Chairman.

CHAIRMAN LLOYD: Yes, Supervisor Roberts.

BOARD MEMBER ROBERTS: Could I make the same comment about content?

CHAIRMAN LLOYD: Yes.

BOARD MEMBER ROBERTS: In keeping with the testimony.

CHAIRMAN LLOYD: I think I would do the same thing, I guess. I heard nothing there that I didn't hear today from the people that are in common there.

So I guess now we're --

BOARD MEMBER PATRICK: I was just going to say do we make a motion here?

CHAIRMAN LLOYD: We now actually are ready to entertain some motions.
BOARD MEMBER PATRICK: Good.

Then I'd like to make a motion to pass Resolution 01-1, but I think that what we want the addition to say would be to mirror what the red line says over there, and that's probably not the legalese term.

How would you put that in there?

And also I think that there seems to be some discussion here about the plug-ins should not be part of the gold standard.

And those I think that we should include in the motion.

MR. KENNY: If I could have a moment, just to sort of state what I thought I heard from the board.

The board was looking, sounded like, to double the number of vehicles by 2012, with the ramp-up beginning in 2007.

As part of doing that, the board was looking to include SUVs in the baseline.

I thought I heard the board also say that they wished to move the plug-in hybrids out of the gold standard and into the silver standard, but to essentially provide for some level of enhanced credit to try to incentivize them.

CHAIRMAN LLOYD: Yes.

MR. KENNY: I thought I also heard that there was a desire to try to incentivize station cars and to provide
for sustainable transportation, and that Mr. DeSaulnier was
going to essentially be heading up a committee to pursue
that.

CHAIRMAN LLOYD: I thought it was implementation
partnership, I think the word he used.

MR. KENNY: That is true.

I thought I also heard that we needed to look at
institutionalizing our environmental justice outreach and
that we should try to figure out how to do that in a more
effective and inclusive fashion.

I thought I also heard that we need to eliminate
the credits that were proposed by the staff, that gave
retroactive credit for vehicles that were produced in the
year 2000.

I thought I also heard an increased outreach
effort to all of the market, and with a particular emphasis
on state purchases, so that in fact we can put our money
where essentially our policy lies.

I thought we were also to look at reassessing the
credit relationship between fuel cell vehicles and EVs in
the later years, such that in fact we don’t have the
disparity that appears to exist right now where the EV is
worth half as much as the fuel cell vehicle, and so
therefore you can meet the mandate in the later years with
far fewer fuel cell vehicles.
I thought we were to look at the credit that was associated with heavy-duty trucks and buses and try to provide that for the future.

And then I also heard the board indicate to us that we are to look at the issue of the travel, and that we should work with the northeast states and try to facilitate a reasonable solution so that in fact we can have a successful market launch that includes more than just simply California.

CHAIRMAN LLOYD: That should be done on an urgency basis.

MR. KENNY: Correct.

BOARD MEMBER PATRICK: That was want I wanted to include in my motion.

BOARD MEMBER D'ADAMO: Mr. Chairman.

BOARD MEMBER C.H. FRIEDMAN: Then I think you ought to restate it.

BOARD MEMBER D'ADAMO: I believe what Mr. Kenny left out was the motorcycle issue to come back.

CHAIRMAN LLOYD: Come back, yeah.

BOARD MEMBER ROBERTS: Mr. Chairman.

CHAIRMAN LLOYD: Yes, Supervisor.

BOARD MEMBER ROBERTS: First of all, I'd like to second that.

But I'd like to clarify something.
Mr. Kenny, you kept going back to the 2012 year, and I thought we said that the assumptions that generated that red line, which I don't think that was a doubling in 2012, so I don't think -- I thought we moved away from the 2012.

MR. KENNY: Actually the red line did reflect essentially the assumptions of the 2012, but I mean to be even clearer, what we will do is make every effort to -- we will essential pursue the -- excuse me. We will pursue the red line, which does reflect the --

BOARD MEMBER PATRICK: I knew I was right.

CHAIRMAN LLOYD: Is that better than the yellow brick road?

Well, I think what we're trying to do, I think what we heard that we're trying to actually come to, although it may be depressing, to half the original number there. That was the way I think the target was.

Looking at that, at that list, I think you did a pretty comprehensive job. I don't have anything on my list other than that, so I think that was -- your recollection was great, Supervisor Patrick.

BOARD MEMBER PATRICK: I'm a whiz this time of night.

Thank you, Mike.

CHAIRMAN LLOYD: Do we have a second?
BOARD MEMBER ROBERTS: I did second.

CHAIRMAN LLOYD: Second.

All in favor say aye.

(Ayes.)

CHAIRMAN LLOYD: Any comments?

Thank you very much, indeed.

Thank you, my colleagues.

We're not finished yet, I don't think.

(Applause.)

MR. KENNY: One more item, three minutes long.

CHAIRMAN LLOYD: Yes. We've got one item to go.

(Pause in proceedings.)

CHAIRMAN LLOYD: Next item on the agenda is 01-1-2, consideration of proposals for the Air Resources Board's innovative clean air technologies program.

This is the seventh year for this program, which supports development of technologies that have potential for improving air quality and also stimulating the state's economy through commercialization of new control technologies.

We're trying to complete the evening.

Today we have -- this evening we have before us five proposals for ICAT funding that have been recommended for the board's consideration.

At this point I'd like to ask Mr. Kenny to begin
the staff's presentation.

MR. CROES: Dr. Lloyd and members of the board, in recognition of the late hour and the straightforward nature of our proposed resolutions, I'd like to dispense with our usual presentation.

CHAIRMAN LLOYD: Go to the top of the class.

BOARD MEMBER BURKE: Move approval.

CHAIRMAN LLOYD: So do I.

BOARD MEMBER RIORDAN: And I'll second it, because we have all had a chance to read the staff report.

BOARD MEMBER C.H. FRIEDMAN: Very worthy projects.

CHAIRMAN LLOYD: And I certainly have, and I really appreciate the good job, and we look forward to continuing great results from this program.

MR. CROES: Thank you.

CHAIRMAN LLOYD: Legal want to say something?

MS. JOHNSTON: Yes. I just wanted to make sure that you all have the attachments to a couple of the resolutions that shows some very minor staff changes.

Okay. Thank you.

CHAIRMAN LLOYD: We thought they were sufficiently minor not to make notice of that.

Thank you very much indeed.

Any ex parte on this issue?

No.
No other public comments?

With that, I will officially close the January 25th, 2001, Air Resource Board meeting.

Oh, sorry.

Yes, all in favor say aye.

(Ayes.)

CHAIRMAN LLOYD: Unanimous.

Now I will officially close the January 25th, 2001, meeting.

Thank you.

(Thereupon the meeting was adjourned at 9:30 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 hearing was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

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

IN WITNESS WHEREOF, I have hereunto set my hand this 5th day of February, 2001.

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I further certify that I am not of counsel or attorney for any of the parties to said meeting, or in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 2nd day of February 2001.

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